FINAL REPORT

A CROSS-NATIONAL INVESTIGATION OF THE EFFECT OF A COACH EDUCATION PROGRAM ON YOUNG ATHLETES' ATTITUDES TOWARD DOPING

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1. STUDY SYNOPSIS

The aims of the study were to investigate:

- how athletes' and coaches' attitudes and beliefs about doping and anti-doping education might be shaped by circumstances and cultures specific to their country with respect to sporting success;
- to what extent the state doping support system adopted in the USSR influenced the attitudes to doping of coaches in the EERADO countries and to what extent these in turn influenced the attitudes of their athletes;
- regardless of these cultural influences, to what extent insufficient knowledge of coaches about banned substances affects the attitudes and beliefs of coaches and their athletes towards doping; and
- what are the essential components of an education program for coaches in order to reduce their negative impact and ensure a positive impact on their athletes?

The results of the work done at the first stage of the project implementation allow us to make the following conclusions.

1. Based on the experience gained in the first year of Study, the necessary changes were made in the structure of the questionnaires and the quality of the questions to assess the knowledge and opinions of coaches and athletes in relation to the use of doping. Modify the questionnaires will make them simpler, understandable for participants and at the more effective.
2. The analysis of the results revealed no significant differences in attitudes towards doping in coaches and athletes groups between the three countries participating in the Project. The latter suggests that the use of improved questionnaires, along with an increase in the number of survey participants in 2021, will allow obtaining more reliable data necessary for the development and implementation of new Education programs for three countries.
The experience of the first year has shown that it will be necessary to make some significant changes in the study design.
3. The minimum age and training experience in athletes group should be 15 years and 3 years respectively.
4. The number of team sports discipline and individual sport discipline will be same in each country which will allow us to get more reliable results in the second year of Study.
5. Taking into account the fact that WADA recommends to conduct a Questionnaire in order to assess the effectiveness of education programs using the WADA Education Standard, we came to the conclusion that in our case short Survey is the most appropriate method to find out the necessary information. The questions in the questionnaire should be written very clearly and should not allow people to answer in two ways. To assess effectiveness, it is also correct to enter a quantitative assessment - for example, from 1 to 5 points.
6. In the course of the implementation of the Project we came to the conclusion that it is optimal to collect completed questionnaires within the framework of "volatile control" that is, before and at the end of each block of training (presentation). The main advantage of this methodology is in the process of filling out the questionnaires also to create an opportunity for participants to rest before each new presentation.At the beginning of each presentation, the participants fill out a pre-prepared questionnaire containing a standard set of questions. Right after the end of the presentation, they again answer the same questions. In this case, the most important factor is the number of questions and the time participants spend completing the questionnaire. In the course of the experiment, which involved more than 250 participants, we came to the conclusion that it is most convenient to use three questions in each of the thematic questionnaires. On average, the time for filling out such a questionnaire did not exceed 5 minutes at the beginning of the presentation, and 4 minutes at the end of the presentation.

7. In the field of anti-doping education, in our opinion, the most effective model is this training model proposed by Bloom's Taxonomy. According to Bloom's model, learning consists of three overlapping areas: knowledge, attitudes, and skills. In order to achieve the greatest efficiency at all three levels, we suggest that the topics that will then be presented in the control questionnaires should be repeated during the presentation at least three times in different aspects. In this case, the repetition interval should be 2-3 minutes, i.e. every three slides.

Knowledge. Give information in the form of an axiom. Example (There are all time prohibited substances and substances prohibited only in completion)

Scenarios. Repeat information in the form of a specific situation. Example: can the athletes use stimulants? (pseudoephedrine 3 mount before competition)

Skills. Repeat the information as an example, asking the participants for an answer. Example: Athletes ask their coach "can they use dexamethasone in out of completion period?" Yes or NO.

In fact, in the first phase, we provide the recollection of information, in the second, the assessment and awareness of information, and in the third, the assimilation of the value system (adaptation of behavior).

8. This approach was applied in three experimental groups of 418 participants, including 207 coaches, athletes and team doctors on three topics recommended by the WADA Education Standard: National Rules and the WADA Code including in the assessment of knowledge about the role and responsibilities of WADA and NADO, Prohibited List and Testing procedure. Considering that according to our Project survey conducted over 1 year in different target groups, complete confusion was found about what WADA and NADO roles are, it was necessary for the participants to clearly understand the role and responsibilities of WADA and NADO. The need arose due to the large volume of fake information on Russian-language sites, which then fell into direct translation into newspapers and TV news. In particular, the articles featured phrases such as: "WADA doping officers", "WADA disqualified athletes at the national championship", etc.

As a result of the discussion of the results obtained during the project, three questions were selected for each topic.

The effectiveness of this approach in three experimental groups of 126 coaches turned out to be higher than expected. The participants' knowledge increased by 20% (24.3±3%) and the average number of correct answers reached from 63% to 87%.

2. TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND DEFINITION OF TERMS

ARMNADO - Armenian National Anti-Doping Organization
SD - standard deviation

Significance Levels

P value	Wording	Summary
< 0.001	Extremely significant	***
0.001 to 0.01	Very significant	**
0.01 to 0.05	Significant	*
≥ 0.05	Not significant	ns

SECTION I: INTRODUCTION

1. General information on project

As shown by the number of positive tests in the EERADO countries of Armenia, Georgia and Moldova, countries of the former USSR, there is clearly a significant challenge facing anti-doping organizations that requires urgent action in these countries. We have undertaken a preliminary study of coaches and athletes that indicates low levels of knowledge and education around doping and corresponding high levels of risk of doping behaviors. These preliminary findings show a clear need for collaborative research to create, implement and evaluate a universal education program for coaches with the goals of fostering a more negative attitude to doping per se, to increase their perceived role in doping education and prevention, and hence positively impact on their young athletes and reduce their likelihood of doping.

A number of studies in Western Europe have examined coaches' doping-related knowledge, attitudes and beliefs, and the influential role they play in an athlete's life. However, such studies have not been conducted in Eastern Europe where almost half of the coaches working with elite and talented developing athletes began their careers during the USSR period and continued to closely cooperate with Russia after the collapse of the USSR. The Russian influence is perhaps evident in the situation that resulted in the disqualification of the national weightlifting teams of Armenia and Moldova in 2017.

The main objectives of this Study are to improve our understanding of how the moral values and attitudes and beliefs about doping and doping education of coaches in Armenia, Georgia and Moldova influence the attitudes and behavior of their young athletes (i.e., as detailed in the SDCM in the WADA Research Package and including for example overall susceptibility to doping; intention to dope in the near future; overall attitude to doping; beliefs about the benefits of doping; etc), and then use this understanding to develop, implement and evaluate an education program for coaches.

The overall research design is a pre-post intervention versus control group design. After preliminary formative research to inform the major research phases, a baseline pre-intervention questionnaire will be administered to a large sample of coaches and their athletes across the three EERADO countries. The Education Program will then be delivered to the intervention group with the questionnaire re-administered to the intervention and control groups. Depending on the results of the intervention, the Education Program will then be modified, delivered to the Control groups and be embedded in the doping education resources across the three EERADO countries.

This 2-year project will consist of the following phases:

(i) The preliminary study involved administering a first draft questionnaire of relevant measures to n = 57 coaches. The questionnaire has been revised as a result of analyzing those results and feedback from coaches and the revised questionnaire will be administered to 25 coaches and 5 of their athletes in each country (total 75 coaches and 15 athletes) to refine the questionnaires and methodology for the subsequent large-scale survey of athletes and coaches.

(ii) Given the results from the above and informed by the literature (e.g. Patterson and Backhouse 2015), an Education program for Coaches will be developed in conjunction with and subject to review by a small panel of coaches to ensure relevance and acceptability of content, structure and delivery.

(iii) The finalized questionnaires for coaches and athletes will be administered to n = 270 coaches (n = 180 in the Intervention group and n = 90 in the Control group; n = 90 in each country) and to 3 athletes under each coach (i.e. n =540 Intervention group and n = 270 in the Control group).

(iv) The Education Program will be delivered to all coaches in the Intervention Group across the three countries tailored to the sport discipline and the region. This will include a brief post evaluation questionnaire on the suitability of the content, structure and delivery of the Program.

(v) Follow-up surveys of coaches and athletes in both the Intervention and Control groups will be conducted 3-4 months after completion of the Education Program.

(vi) Analyses of data will be undertaken to assess where the Education Program has or has not been effective, and amongst which disciplines, regions or countries. Feedback of these analyses will be incorporated into the content and structure of the Education Program which will then be administered to the Control group and ongoing.

(vii) Based on the results obtained during the Project implementation and the identified challenges, the Education Brochures for coaches aimed at improving knowledge in those areas identified as most important for ensuring a positive influence of coaches on the anti-doping attitudes and behavior of athletes were be created and printed. The brochures were printed in Armenian, Moldovan and Georgian languages and printed in a suitable quality in Armenia and then transferred to Georgia, Moldova and possibly to other EERADO countries for further work with coaches.

2. Research Problem/Research Question

The situation in the member countries of EERADO (Armenia, Georgia and Moldova), countries of the former USSR, requires urgent action. Almost half of the coaches working with elite and talented developing athletes in these countries began their careers during the USSR period and continued to closely cooperate with Russia after the collapse of the USSR.

The importance of this fact is reinforced by the revelations about the scale of doping in Russia since 2010, along with evidence of recent doping in Eastern Europe such as the IAAF blood data files, the WADA/IAAF 2011 prevalence study, re-testing of samples from 2008 and 2012 Olympics, and the Meldonium cases. That is, the culture, sport history, and doping prevalence within the USSR have undoubtedly influenced beliefs, attitudes and practices of coaches in the EERADO countries. Indirectly, this is evidenced by the fact that in these countries there exists a number of coaches who have 4-5 sanctioned athletes in their coaching groups.

In 2018 we conducted a preliminary pilot research survey of n = 57 coaches in Armenia, Georgia and Moldova to inform this proposal (Hovhannisyan A., Ukleba T. et al. 2018). The results of that survey showed a significant lack of doping knowledge of coaches across the three EERADO countries, in particular with respect to the Prohibited List details and the testing policies of WADA and International Federations. The results also revealed that many coaches do not fully understand their role in the fight against doping and lacked knowledge of what kind of actions they should do to help in preventing athletes doping.

Given the trust that young athletes (in all countries) have in their coaches, these pilot results indicated that EERADO countries need further systematic investigation into coaches' attitudes to doping, their knowledge of anti-doping education, and their beliefs about their roles in anti-doping education, to inform the development and implementation of an Education Program for

coaches. This proposal is based on the proposition that conducting educational programs among coaches and raising their awareness in the anti-doping area can significantly change the attitude of their athletes to doping.

In consideration of the influential role that coaches might play in an athlete's life, previous studies in Western Europe, Asia and Australia have examined coaches' doping-related knowledge, attitudes and beliefs. However, there have been no studies - that we are aware of – conducted in Eastern Europe, and hence this research is required to provide a context specific evidence base for the content and structure of a Coach Education program in the three EERADO countries.

The planned study will determine what are the attitudes and beliefs about doping and doping education amongst coaches, and to what extent the attitude of the coaches to doping or their insufficient knowledge affect the attitudes and behavior of athletes who train in their team. These results will inform the development and implementation of an Education Program for coaches, and its subsequent evaluation. The evaluation will include an assessment across sports disciplines and across the three countries so that future implementation can be tailored to relevant local contexts.

This proposal is mindful of the value of education across a number of influencing and outcome variables confirmed by previous research (e.g., Donovan et al. 2002; Backhouse et al, 2012). It is also consistent with WADA's current development of an International Standard for Education, recent calls from the WADA Athlete Forum for mandatory education, and Principal Investigator's (PI) Hovhannisyan's recent book which details that a lack of education is a real problem for both deliberate and accidental doping, that all sports organizations need to take more responsibility in this respect, and that education needs to be localized, engaging and culturally specific, not simply on-line tutorials (Hovhannisyan A. et al, 2018).

3. Literature Review/Previous Studies that Support this Proposal

The importance of coaches as potential agents in the prevention of drug use amongst athletes has been emphasized in a series of studies over the past two decades (see Backhouse and McKenna, 2012). It is clear that the coach plays an important role in an athlete's sporting career (Lyle, 2002) and coaches are frequently identified as a potential precipitating factor in athlete doping (Backhouse, et al, 2007; Kirby, et al, 2011; Lazuras, et al, 2010; Lentillon-Kaestner & Carstairs; 2010; Smith, et al, 2010).

In their study of the experiences of five elite athletes who had admitted to doping, Kirby and colleagues (2011) found a lack of engagement around doping issues by coaches, pressure from management through a win-at-all-costs emphasis, and perceived reluctance from organizing bodies to face up to a doping problem contributed to athletes' decision to dope. Lentillon-Kaestner and Carstair's (2010) analysis of the team and sport culture experienced by young elite cyclists also found that significant others such as coaches, more experienced cyclists, family and friends and the wider world of professional cycling contributed to either a protective or risky social context with regard to doping.

Smith and colleagues (2010) found that both individual and contextual factors were associated with attitudes to doping. They found at the contextual level there were influences from their more immediate social environment such as parents and coaches as well as influences from the wider social environment such as the culture of the sport. Lazuras and colleagues (2010) included 'the coach's suggestion' as one of four circumstances in their measure of situational

temptation to dope, and in their study of Greek elite-level athletes, they found that situational temptation was the strongest predictor of intention for doping.

Preliminary findings from research conducted with Scottish elite athletes also identified coaches as influential with regard to athletes' knowledge of and attitudes to doping (Dimeo et al., 2012). Allen et al., 2013) found that athletes' perception of a coach-created mastery motivational climate (i.e., emphasis on effort, learning and personal development) was associated with attitudes more conducive to anti-doping.
In addition to being viewed as a precipitating factor, or perhaps because of this, coaches are

identified as important potential agents in doping prevention (Backhouse et al, 2011; Cleret, 2011; Dubin, 1990; Kirby et al., 2008, Fung and Yuan, 2006). For example, Kirby and colleagues (2011) found that, for one of the athletes in their study who had admitted to doping, a coach had been a positive role model and acted as a deterrent for many years. However, when the athlete changed training groups and the positive influence of the coach was no longer present, the athlete succumbed to the pressures to dope.
A postal survey of professional coaches in France found that coaches indicated that they had a role to play in preventing doping, however the authors conclude that education programs should make them fully informed of the issues around doping (i.e., epidemiology, substances involved, supply source, etc), in order for them to be able to answer questions from their athletes (Laure et al., 2001).

Backhouse & McKenna (2012) in their study of 566 coaches indicated that all coaches believed they should have at least a basic knowledge of doping and anti-doping. However, their actual knowledge and understanding of such varied widely, although most had a good understanding of the drug testing and control procedures and the risks of inadvertent doping associated with medications.

Despite the recognition that coaches have the potential to act as a strong deterrent against doping, the literature with respect to coaches' perceptions of their roles, responsibilities, and actions with regard to anti-doping is limited. Our literature review identified five internal factors that influenced coaches' engagement with doping and anti-doping issues: 'clean' sport value; holistic approach to preparation and performance; knowledge; responsibility to athlete; and athlete responsibility.

As noted above, the studies in this area (cited above) have been conducted in the countries of Western Europe. In the countries of Eastern Europe, including Armenia, Georgia and Moldova, similar studies have not been conducted. This is significant given that many athletes of these countries were sanctioned after the re-analysis of samples collected at the 2008 and 2012 Olympic Games. Furthermore, in the literature available to us, we did not find any studies where knowledge and attitudes to doping were compared in coaches and athletes led by them, which this study will do.

With respect to delivery of a Coach Education Program, Figved (1992) reported that coaches believed that seminars, courses, and evening sessions were the best ways of changing attitudes and increasing knowledge. Furthermore, incentives such as certifications and fee waivers could be used to encourage coaches to undertake such courses to work towards knowledge and attitude development in the area of doping. In this proposal, the content, structure and delivery of an Education Program will be co-created with a sample of coaches to ensure acceptance when implemented.

4. Hypotheses

This project involves the investigation of athletes and coaches to understand the following:

- how athletes' and coaches' attitudes and beliefs about doping and doping education might be shaped by circumstances and cultures specific to their country with respect to sporting success;
- to what extent the state doping support system adopted in the USSR influenced the attitudes to doping of coaches in the EERADO countries and to what extent these in turn influenced the attitudes of their athletes;
- regardless of these cultural influences, to what extent insufficient knowledge of coaches about banned substances affects the attitudes and beliefs of coaches and their athletes towards doping; and
- what are the essential components of an education program for coaches in order to reduce their negative impact and ensure a positive impact on their athletes?

Hence the research will explore the following hypotheses:

Hypothesis 1: Social and cultural norms, perceived role and behavioral control beliefs (reflecting both internal and external control processes) will significantly predict coaches' attitudes and beliefs about doping (e.g., Lucidi et al., 2008, Fung and Yuan, 2006, Allen, Dimeo et al., 2015).

Hypothesis 2: Coaches' attitudes and beliefs about doping and their role in doping education will be reflected in their athletes' attitudes towards doping and doping susceptibility (Hovhannisyan A. et al., 2017).

Hypothesis 3: Coaches' completion of a research-informed, co-created Education Program will result in coaches' greater acceptance of their role in anti-doping, more positive attitudes to doping education, increased knowledge about doping, and more negative attitudes to doping.

Hypothesis 4: Changes in Coaches' beliefs and attitudes after the Education program will be reflected in their athletes, and the greater the desired change in the coaches, the greater will be the desired change in their athletes' attitudes towards doping and decreased susceptibility to doping.

5. Aim of study

Aims of study

The aims of the study were to investigate:

- how athletes' and coaches' attitudes and beliefs about doping and doping education might be shaped by circumstances and cultures specific to their country with respect to sporting success;
- to what extent the state doping support system adopted in the USSR influenced the attitudes to doping of coaches in Armenia, Georgia and Moldova and to what extent these in turn influenced the attitudes of their athletes and regardless of these cultural influences, to what extent insufficient knowledge of coaches about banned substances affects the attitudes and beliefs of coaches and their athletes towards doping; and

- what are the essential components of an education program for coaches in order to reduce their negative impact and ensure a positive impact on their athletes?

Based on the results obtained during the Project implementation and the identified challenges, the Education Brochures for coaches aimed at improving knowledge in those areas identified as most important for ensuring a positive influence of coaches on the anti-doping attitudes and behavior of athletes were be created and printed. The brochures were printed in Armenian, Moldovan and Georgian languages and printed in a suitable quality in Armenia and then transferred to Georgia, Moldova and possibly to other EERADO countries for further work with coaches.

6. Main purpose of study

(i) Primary information objectives:

- how athletes' and coaches' attitudes and beliefs about doping and doping education might be shaped by circumstances and cultures specific to their country, which athletes and coaches experience in their quest for sporting success,
- to what extent the presence of the state doping support system adopted in the USSR influenced the mentality of coaches and to what extent a positive attitude towards the use of doping can be transmitted to athletes,
- the extent to which insufficient knowledge of coaches about banned substances can affect attitudes of coaches and athletes towards doping,
- in which direction it is necessary to build education programs for coaches in order to reduce their negative impact on athletes,

The final purpose of this study is to use the resulting data to inform current and future anti-doping education programs that are targeted toward aspiring professional coaches.

(ii) Secondary information objectives:
Secondary objectives of the study are to assess beliefs about and attitude towards doping different sports.

SECTION II: STUDY DESIGN

1. Current situation in Moldova, Armenia and Georgia

The situation that currently exists in the countries of the former USSR, the members of EERADO (Armenia, Georgia and Moldova) requires urgent action. Almost half of the coaches working with elite and talented development athletes began their careers during the USSR period and continued to closely cooperate with Russia after the collapse of the USSR. The culture, sport history, and prevalence within the USSR were influenced by the awareness coaches had about doping and anti-doping issues. Indirectly, this is evidenced by the fact that in these countries there are coaches who have 4-5 sanctioned athletes in the coaching groups. As shown by the results of the preliminary pilot research using a short survey (14 question, n=57) (Hovhannisyan A., Ukleba T. et al. 2018) which was implemented in May-June 2018 in Armenia, Georgia and Moldova, there was a significant similarity in doping behavior and the knowledge of coaches in the 3 EERADO countries. The results allowed us to conclude that one of the main problems that can affect the attitude of athletes to doping, which is common to all three countries, is the insufficient knowledge that coaches have of the anti-doping field. This is true especially for the Prohibited List details and WADA and International Federations testing policy. On the other hand, coaches do not fully understand their role in the fight against doping and do not know what kind of actions they should do to help in preventing athletes from using doping.

Also, in accordance with public mentality, which is the same in Armenia, Georgia and Moldova, young athletes trust their coaches. Thus, the influence of coaches especially on young athletes is very important and needs further investigation through systematic research.
The research questions which this project focuses upon are:

- What are the current attitudes among athletes?
- How are these influenced by their coaches?
- What lessons can be learned for the development of anti-doping policy and specifically education for coaches and athletes?

This investigation can also help us understand how athletes' beliefs about and attitudes towards doping are shaped if those coaches do not have satisfactory knowledge in the anti-doping field. Consequently, conducting educational programs among coaches, raising their awareness in the anti-doping area can significantly change the attitude of athletes to doping.

The planned study will determine to what extent the attitude of coaches to doping or their insufficient knowledge affects the behavior of athletes who train in their team. The results of the survey will allow developing a directed targeted education and awareness programs for coaches and, on the other hand, to develop multidirectional specific questionnaires that will allow evaluating the effectiveness of education programs. At the same time, we plan to conduct a comparative analysis of the situation in the three countries, assess the similarities and differences in risks and challenges, and, if necessary,
prepare country-specific questions in addition to the main questionnaire. In consideration of the influential role that coaches might play in an athlete's life, previous studies in Western Europe, Asia and Australia have examined their doping-related knowledge, attitudes and beliefs.
The current evidence-base makes it difficult to plan targeted education to span coaching contexts. Addressing this situation in a more systematic and thorough approach appears warranted especially in Eastern Europe which has recently become one of the Regions with the greatest risk assessments and where such studies have never been conducted.

The importance of this study is also reinforced by the following aspects:

- the scale of doping in Russia since 2010 and how that caused a major global scandal, and how hard it was to prevent corruption among sports and political leaders
- evidence of recent doping in Eastern Europe such as the IAAF blood data files, the WADA/IAAF 2011 prevalence study, and re-testing of samples from 2008 and 2012 Olympics, and the meldonium cases
- the value of education: deterrence through awareness of health risks; increasing the fear of being caught; increasing athletes' resilience when being asked to dope by their coach; fostering a culture of clean sport among athletes that might reduce the chances of organization corruption; help prevent inadvertent cases
- WADA's new International Standard for Education (ISE) which has been released as part of the Code consultation process (this study could help the implementation of the ISE, and help design better educational packages)
- recent calls from the WADA Athlete Forum for mandatory education
- my recent book which shows lack of education is a real problem for both deliberate and accidental doping, and we say that all sports organizations need to take more responsibility in this respect
- education needs to be localized, engaging and culturally specific, not simply on-line tutorials.

2. Investigation plan for first and second years of study

a. FIRST YEAR OF STUDY

Overall Study Design and Plan Description

Development of a questionnaire for coaches and athletes based on analysis of the results of the first phase of the Pilot study in 2018 (Hovhannisyan et. al., 2018)

The preliminary study involved developing and administering a first draft Coach questionnaire of relevant measures to n = 75 coaches. As a result of analyzing those results and feedback from coaches, the questionnaire has been revised and a corresponding questionnaire developed for Athletes. These questionnaires were piloted with 75 coaches (25 in each country) and 5 of their athletes (i.e., n = 125 in total for each country) to refine the questionnaires and methodology for the subsequent large-scale survey of coaches and athletes in each country**.** Respondents also provided feedback on the questionnaire length, content, structure and language. The questionnaires have been designed to include beliefs and attitudes associated with doping susceptibility amongst athletes and a lack of commitment to anti-doping education amongst coaches.

b. SECOND YEAR OF STUDY

Overall Study Design and Plan Description

The finalized questionnaires for coaches and athletes will be administered to n = 270 coaches (n = 90 in each country) and to 3 athletes under each coach (i.e. n =810 Intervention group and n = 270 in in each country).

The Education Program will be delivered to all coaches in the Intervention Group across the three countries tailored to the sport discipline and the region. This will include a brief post evaluation questionnaire on the suitability of the content, structure and delivery of the Program.

Follow-up surveys of coaches and athletes in both the Intervention and Control groups will be conducted 3-4 months after completion of the Education Program.

Analyses of data will be undertaken to assess where the Education Program has or has not been effective, and amongst which disciplines, regions or countries. Feedback of these analyses will be incorporated into the content and structure of the Education Program which will then be administered to the Control group and ongoing.

Based on the results obtained during the Project implementation and the identified challenges, the Education Brochures for coaches aimed at improving knowledge in those areas identified as

most important for ensuring a positive influence of coaches on the anti-doping attitudes and behavior of athletes were be created and printed. The brochures were printed in Armenian, Moldovan and Georgian languages and printed in a suitable quality in Armenia and then transferred to Georgia, Moldova and possibly to other EERADO countries for further work with coaches.

3. Methods and analytical instrument

Methodology:
Self-completion survey.

Number of participants:
Total:270 coaches and 810 athletes included.
Main criteria for inclusion in second year of Study:
The national and international professional athletes who participated in the World, European or Armenian championships, and had the opportunity to receive financial prizes or special monthly remuneration for their sporting achievements in competitions.

Ethics approval:
According to the laws of Armenia, Georgia and Moldova the State ethics approval is not required for this kind of research, but each research organization has granted permission from its Ethics Committee.

Selection of study population

Inclusion criteria
For inclusion in the study subjects must fulfill all of the following criteria:

- age from 15 to 80 years,
- participant of National Championship or highest International competition,
- member of Sport School or National Sport Federation,

Exclusion criteria

- age 14 year or under,

Coach Selection
The 90 coaches were selected in each country. All selected coaches were the coaches from National Teams or Sport Clubs (team sport). The selection of coaches was carried out in such a way that both coaches with extensive work experience (30 years or more), who began their activities in the USSR, and young coaches who started working in the XI century were included in the list.

4. Data collection procedure

The data collection in Capital sport centers.
For 4-5 days prior to the survey, representative of NADO had a private meeting or contacted on the phone a sports school/center administration (Director), explained the methodology of the survey and agreed on the date and time of the survey.
On the day of the survey, the investigator team (2-3 employees) went to the sports schools/center. Before the start of the Survey, the investigator team presented in detail a technique to complete the questionnaire. During the interview, the investigator kept under the

control of the process of the questionnaires and, if necessary, responded to questions regarding methods of athletes completing the questionnaire, as well as make a control of the completion of all questions.
All completed questionnaires were collected in a special folder and transported to the investigator team's office.

Questionnaire: A self-completion questionnaire for coaches and athletes was developed based on analysis of the results of a first phase Pilot study in 2018 (Hovhannisyan et. al., 2018). The preliminary study involved developing and administering a first draft Coach questionnaire of relevant measures to n = 75 coaches. As a result of analyzing those results and feedback from coaches, the questionnaire was revised and a corresponding questionnaire developed for Athletes. These questionnaires were piloted with 75 coaches (25 in each country) and 5 of their athletes (i.e., n = 125 in total for each country) to refine the questionnaires and methodology for the subsequent large-scale survey of coaches and athletes in each country**.** Respondents also provided feedback on the questionnaire length, content, structure and language. The questionnaires were designed to include beliefs and attitudes associated with doping.

Questionnaire Structure
Coaches: The questionnaire for coaches included 26 questions in the following six sections:

1. Demographics
2. Awareness of WADA, Code and WADA`s Standard
3. Perceived motivations of doping athletes
4. Perceived effectiveness of anti-doping programs
5. Beliefs about doping in sport
6. Beliefs as a Coach about doping

Athletes: The questionnaire for athletes included 26 questions in the following six sections:

1. Demographics
2. Awareness of WADA, Code and WADA Standards
3. Perceived motivations of doping athletes
4. Beliefs about doping in sport
5. Perceived effectiveness of anti-doping programs
6. Overall susceptibility to doping.

Participants
In the second year of study, the finalized self-completion questionnaires for coaches and athletes was administered to n = 270 coaches (n = 90 in each country) and to 3 athletes under each coach (i.e., total n = 810; n = 270 in in each country). For inclusion in the study subjects had to fulfill all of the following criteria: aged from 15 to 80 year; participant in World, European or National Championship competition; member of Sport School or National Sport Federation.

5. Statistical analysis

The data at each visit were recorded using a standardized assessment and transformed to an Excel database that was used for further data management and statistical analyses (Evererett, 1989), using GraphPad (San Diego, CA, USA) Prism software (version 3.03 for Windows. GraphPad Prism was used also for supplemental graphs) and IBM SPSS statistic program version 23, 2019.
The primary analysis followed intention-to-treat principles. All statistical tests were evaluated against 0.05 level of significance, and were two-sided tests. Before comparison of the data within or between groups, all data were checked for normality test (*=0.05).

Statistical evaluation was performed for each country on the 90 coaches and 270 athletes included in the study in each country. Descriptive statistics, including the mean and standard deviation were used to compare the data for the 3 countries. All of the data were checked for normality. Depending on the results of the normality test, the comparative assessment of the results between three countries was made using:

- Kruskal-Wallis (KW) non-parametric one-way ANOVA rank-order test, with *post hoc* Dunn's Multiple Comparison Test or parametric one-way independent measures ANOVA with Tukey's Multiple Comparison Test.
- All results are presented as Mean ± SD. The statistical significance was set with alpha at 0.05.
- Correlation analysis of the coaches` and athletes data using Pearson or Sperman correlation coefficient

SECTION III: RESULTS.

a. DEMOGRAPHIC DATA OF THE SECOND YEARS OF STUDY'S` PARTICIPANTS

The results for the total sample are presented in Tables III-1 to III-9 in the main body of the report. Each of the variables was cross tabulated by sport discipline and by region. The cross tabulation tables are presented in the Appendix. Where there were significant differences of note by participants' countries these are noted in the main body of the report. Data on coaches' and athletes' sporting background and socio-demographic information are presented first, followed by data for coaches and then for athletes.

III-1 *Sport discipline and Risk Assessments* information

Table III-1. The distribution of Coaches by Sport discipline and Risk Assessments (RA) (N=90 per country).

Q1. Sports you have worked with	Risk Assessments	**Armenia,%**	**Georgia,%**	**Moldova,%**
Judo	High	12.2	8.9	6.6
Football	High	14.4	13.3	0
Boxing	High	11.1	8.9	8.8
Skiing	High	4.4	0	0
Basketball	Middle	8.9	11.1	7.7
Wrestling	High	6.7	5.6	9.9
Weiglifting	High	22.2	6.7	7.7
Athletic	High	4.4	7.8	11.0
Swimming	High	2.2	0	6.6
Karate	Middle	1.1	0	0
Alpinski	Middle	3.3	0	0
Figure Skating	Middle	4.4	0	0
Gymnastic Artistic	Low	4.4	6.7	11.0
Canoe/Kayak	High	0	1.1	2.2
Cycle sport	High	0	6.7	0
Fencing	Low	0	7.8	0
Powerlifting	High	0	1.1	4.4
Rugby	High	0	10.0	14.3
Sambo	High	0	2.2	0
Taekwondo	High	0	0	5.5
Wheelchair fencing	Low	0	2.2	2.2
Wheelchair Tennis	Low	0	0	2.2
Total, %		**100**	**100**	**100**

The questionnaire was complated by representatives of 22 sports discipline, of which 64% survey participants in were representatives of sports disciplines with high risk assessment (Table III-1).
14% is team sport discipline and 86% is individual sport discipline.

III-2 Coaches' sporting background and socio-demographic information

The Table III-2 – III-4 show that the mean work experience of Armenian Coaches was 15.88±11.59 years, max.-55 year, min.-1 year,10.44± 6.67 years in Georgia (max.-27 year, min.-1 year), and 11.41±7.0 years in Moldova (max.-32 year, min.- 2 year).
The mean age of Armenian coaches are 45.51± 13.97 years (max.-74 year, min.-23 year), 42.93± 10.74 years in Georgia (max.-62 year, min.-24 year), and 43.3±10.7 years in Moldova (max.-61 year, min.-24 year).
The sample consisted of predominately males 81% in Armenia, 85.6% in Georgia and 85.6% in Moldova (Table III-4).

Table III-2. The distribution of Coaches by years of working experiences (N=90 per country).

Q2. No. of years working with sports people, years	**Armenia,%**	**Georgia,%**	**Moldova,%**
>31	7.8	0	0
20 to 30	27.8	14.4	14.5
10 to 19	21.1	40.0	39.9
<10	43.3	45.6	45.5
Total, %	***100***	***100***	***100***

Table III-3. Comparative statistics of Coaches working experiences (N=90 per country).

Q3. Your age			
Country	**Mean ±SD, years**	Statistical analysis	P
Armenia	15.88±11.59	ARM vs GEO	$> 0.05^{ns}$
Georgia	10.44± 6.67	ARM vs MDA	$> 0.05^{ns}$
Moldova	11.41±7.0	GEO vs MDA	$< 0.05^{ns}$

Table III-4. The distribution of Coaches by gender (N=90 per country).

Q4. Your gender	**Armenia,%**	**Georgia,%**	**Moldova,%**
Males	81.1	85.6	85.6
Females	18.9	14.4	14.4
Total, %	***100***	***100***	***100***

The results show that in Armenia, unlike Georgia and Moldova, more than half of the survey participants were athletes of the highest class. More than half of participant in all countries has an experience working with international level athletes.

III-3 Information about highest level of team/athlete competition the Coaches have worked with

Table III-5. Q5 The Information about highest level of team/athlete competition the Coaches have worked with (N=90 per country)

Q5. What is the highest level of team/athlete competition you have worked with	**Armenia,%**	**Georgia,%**	**Moldova,%**	Statistical analysis	p
Local	2.2	16.7	16.7		
Regional	0	0	0	ARM vs GEO	$> 0.05^{ns}$
National	36.7	30.0	30.0	ARM vs MDA	$> 0.05^{ns}$
International	61.1	53.3	53.3	GEO vs MDA	$> 0.05^{ns}$
Total,%	***100***	***100***	***100***		

III-4 Athletes Sporting background and socio-demographic information

Age

The mean age of athletes of all countries was is the same (about 18-24 years). The minimum age of athletes is 14 year; the maximum age is 35 year (Table III-6, Appendix 3).

Table III-6. The distribution of Athletes by age (N=270 per country).

Age, years	**Armenia,%**	**Georgia,%**	**Moldova,%**
Mean age, year	**24.3±5.5**	**19.98±2.7**	**20.53±3.1**
17 to 19	54.8	56.7	51.1
20 to 29	43.3	43.3	47.1
30-35	1.9	0	1.8
Total	***100***	***100***	***100***

The mean training experience of athletes of all countries is the same (about 5-15 years). The minimum training experience of athletes is 2 years; the maximum training experience of athletes is 21 years (Table III-7, Appendix 3).

Table III-7. The distribution of Athletes by training experience (N=270 per country).

Age, years	**Armenia,%**	**Georgia,%**	**Moldova,%**
Mean age, year	**10.4±5.6**	**6.76±3.3**	**7.58±3.3**
1-5	25.6	42.6	30.3
6-10	55.6	46.7	53.8
11-15	16.3	8.5	14.1
>15	2.6	2.2	1.8
Total	***100***	***100***	***100***

The athletes sample consisted of predominately males and is same in all countries - 80% (Table III-8).

Table III- 8. The distribution of Athletes by gender (N=270 per country).

Q4. Your gender	**Armenia,%**	**Georgia,%**	**Moldova,%**
Males	79.3	80.4	79.6
Females	20.7	19.6	20.4
Total, %	***100***	***100***	***100***

The highest level of competition.

The percent of athletes competing at each competition level is presented in Table III-9. Most of the athletes (>50%) were participants in international sporting events and about 42% of athletes participated only in the National Championship.

Table III-9. Q5 The distribution of study participants Athletes by highest level of competition (N=270 per country).

Competition Level	**Armenia,%**	**Georgia, %**	**Moldova,%**
Olympic Game	10.7	12.6	11.1
Word Championship	17.0	17.8	16.7
European Championship	26.7	27.0	33.3
National competition	45.6	42.6	38.9
Total,%	***100***	***100***	***100***

Six athletes from Georgia and 6 athletes from Moldova were athletes with impairment in the study.

b. SIMILARITIES AND DIFFERENCES BETWEEN COUNTRIES. RESULTS OF COACHES' SURVEY

Coaches were asked to nominate up to knowledge about WADA, Prohibited List and Code.

III-5. KNOWLEDGE AND AWARENESS.

Coaches were asked to nominate up to three sources from whom they had received information about banned substances. Their response is presented in Table III-10.
Table III-1 shows that the majority of Armenian and Georgian sample of Coaches have received information about banned substances in sport from team doctors (>40%).
There are significant difference between Armenia and other countries. The number of coaches who also have received information from NADO is significant, bigger in Armenia than in Moldova and Georgia (Table III-10).
This difference is likely due to the fact that in 2021 ARM-NADO constantly updated information on prohibited substances using social networks and used the email addresses of the Federations.

Table III-10. Q6. Distribution of responses in a Coaches samples (N=90 per country).

Q6. From who have you most often received information about banned substances in sport?	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	p
Team Doctor	43.3	48.9	51.6		
Internet	8.9	10.0	12.1	**ARM vs GEO**	**<0.05***
Team Manager Coach	12.2	30.0	23.1	**ARM vs MDA**	**<0.05***
Other Coach	2.2	11.1	9.9	GEO vs MDA	> 0.05^{ns}
NADO	33.4	0	3.3		
TV	0	0	0		
Total	***100***	***100***	***100***		

Coaches were asked about whether there have been cases when they were forced to find out information about anti-doping regulations from athletes.
Table III-11 shows that around half or more coaches in each country report being asked occasionally or often by athletes. However, about 30% of Coaches has responding 'No'.

Table III-11. Q7. Distribution of responses in a Coaches samples (N=90 per country).

Q7. During your coaching career have you ever been asked by an athlete for information about anti-doping regulations?	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	**p**
Yes - Often	33.3	30.0	33.0	ARM vs GEO	> 0.05 ^{ns}
Yes – Occasionally	16.7	15.5	15.3	ARM vs MDA	> 0.05 ^{ns}
Yes- but rarely	22.2	25.6	23.1	GEO vs MDA	> 0.05 ^{ns}
No	27.8	28.9	28.6		
Total	***100***	***100***	***100***		

Table III-12. Q8. Distribution of responses in a Coaches samples (N=90 per country).

Q8. How would you rate your knowledge about banned substances in sport?	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	**p**
Very knowledgeable	18.9	20.0	19.8		
Quite knowledgeable	30.0	32.2	28.5	ARM vs GEO	> 0.05 ns
Not very knowledgeable	32.2	30.0	34.1	ARM vs MDA	> 0.05 ns
Not at all knowledgeable	18.9	17.8	17.6	GEO vs MDA	> 0.05 ns
Total	***100***	***100***	***100***		

Coaches were asked to evaluate their knowledge of banned substances in sport. Their response is presented in Table III-12.
Table III-12 shows that in all countries the majority of coaches consider their knowledge of banned substances in sport sufficient (>40%).

Table III-13. Q9. Distribution of responses in a Coaches samples (N=90 per country).

Q9. If a prohibited substance was found in the athlete's urine or blood sample, who do you think is primarily responsible for such a violation of the anti-doping rules?	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	**p**
Athlete	80.0	80.0	67.0	ARM vs GEO	> 0.05 ns
Team doctor	10.0	11.1	9.9	ARM vs MDA	> 0.05 ns
Coaches	7.8	0	7.7	GEO vs MDA	> 0.05 ns
Don't know	2.2	8.9	15.4		
Total	***100***	***100***	***100***		

The interesting results show regarding responsibility for violation of the the anti-doping rules under Code article 2.1. Vast majority of coaches in Armenia and Georgia (80%) are sure that the athletes is primarily responsible if prohibited substance was found in the athlete's urine sample, but in contrast in Moldova 15% of Coaches does not have any answer who is responsible for violation of the the anti-doping rules (Table III-13).

Awareness of Anti-Doping Organization role and responsibility

Coaches were asked whether testing of athletes, development of anti-doping rules and standards and athlete disqualifications were the main activities of WADA. Their responses are presented in Table III-14.

Table III-14 shows that substantial or very high proportions of coaches across all three countries believe that WADA's main activities include testing of athletes and athlete disqualification.
Despite the fact that compared to the first year of Study when the structure of this question was somewhat different there is significant progress in assessing the role of NADO in the testing planning and implementation, some part of the participants, especially in Georgia and Moldova, still believe that the Ministry of Sports is actively involved in planning testing and disqualification of athletes at both national and international levels. In Armenia the situation of coaches' knowledge is a little better and is statistically significantly different from the situation in other two countries.
Basically, this is incorrect information, especially Russian-language websites in which they very often write about "WADA doping officers" or that "WADA has disqualified athletes" etc.

The situation is not different in all three countries, and it is likely that the future Education program for coaches and athletes will need to pay special attention to explaining the roles and responsibilities of the various anti-doping organizations.

Table III-14. Q10. Distribution of responses in a Coaches samples (N=90 per country).

Q10. Which Anti-Doping organizations are primarily responsible for the following actions **a. Planning and implementation of the Testing of National level athletes**	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	**p**
National Anti-Doping Organization	81.9	60.0	59.3	ARM vs GEO	< 0.001 **
National Federation	11.5	17.7	18.7	ARM vs MDA	< 0.001 **
Ministry of Sport	4.1	10.0	11.0	GEO vs MDA	> 0.05 ns
NOC	2.5	6.7	5.5		
WADA	0	5.6	5.5		
Total *,%*	***100***	***100***	***100***		

Q10. Which Anti-Doping organizations are primarily responsible for the following actions **b. Control of effectiveness of Testing and disqualification of National level athletes**	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	**p**
National Anti-Doping Organization	80.0	58.9	52.7	ARM vs GEO	< 0.001 ***
National Federation	1.1	16.6	20.9	ARM vs MDA	< 0.001 ***
Ministry of Sport	15.6	8.9	12.1	GEO vs MDA	> 0.05 ns
NOC	3.3	7.8	6.6		
WADA	0	7.8	7.7		
Total *,%*	***100***	***100***	***100***		
Q10. Which Anti-Doping organizations are primarily responsible for the following actions **c. Planning and implementation of the Testing of International top level athletes**	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	**p**
National Anti-Doping Organization	43.3	33.3	35.2	ARM vs GEO	> 0.01**
National Federation	14.4	46.7	14.3	ARM vs MDA	< 0.05 *
Ministry of Sport	22.2	8.9	11.0	GEO vs MDA	> 0.05 ns
NOC	7.8	6.7	7.7		
WADA	12.3	4.4	31.8		
Total *,%*	***100***	***100***	***100***		
Q10. Which Anti-Doping organizations are primarily responsible for the	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	**p**

following actions **d. International level Athletes Disqualification**					
National Anti-Doping Organization	17.8	28.9	28.6	ARM vs GEO	< 0.05 *
International testing Agency	38.9	36.7	8.8	ARM vs MDA	< 0.05 *
Ministry of Sport	20.0	2.2	11.0	GEO vs MDA	> 0.05 ns
NOC	6.7	2.2	6.5		
WADA	10.0	30.0	45.1		
International Federation	6.6	0	0		
Total ,%	***100***	***100***	***100***		

It was also interesting to find out how carefully coaches get acquainted with the information annually rearranged by WADA and NADO about the number of violations in their sports disciplines (Table III-15).

A similar lack of reliable information on the number of athletes who use prohibited substances or methods is observed in the assessment of the percentage of doping use both in the world as a whole and in the countries of the project participants. However, despite the difference in the distribution of answers between Armenia and other countries where the diagram for annually WADA statistical report in as necessary part of each presentation at the Education seminars in total the participants are sure that in their countries the number of athletes who use prohibited substances or methods is no more than 1% (Table III-15). More worrying is the situation in Moldova, where participants do not receive information about this important indicator.

Table III-15. Q11. Distribution of responses in a Coaches samples (N=90 per country).

Q11a. How many athletes in your sport do you believe engage in doping?	**Armenia,%**	**Georgia,%**	**Moldova,%**
0-1%	80.0	46.7	46.2
10-20%	7.8	17.8	18.7
40-60%	10.0	2.2	3.3
60-80%	0	0	0
90%	0	0	0
Don't know	2.2	33.3	31.8
Total ,%	***100***	***100***	***100***
Q11b. How many elite athletes in your country do you believe engage in doping?	**Armenia**	**Georgia**	**Moldova**
0-1%	74.4	33.3	41.8
10-20%	11.1	41.1	17.6
40-60%	12.2	1.1	3.3
60-80%	0	0	1.1
90%	0	0	0
Don't know	2.3	24.5	36.2
Total ,%	***100***	***100***	***100***
Q11c. How many elite athletes do you believe will be engaged in doping during the last year?	**Armenia**	**Georgia**	**Moldova**
0-1%	66.6	38.9	35.1
10-20%	25.6	42.2	22.0

40-60%	7.8	5.6	7.7
60-80%	0	1.1	3.3
90%	0	0	0
Don't know	0	12.2	31.9
Total ,%	***100***	***100***	***100***

Q11	Statistical analysis ARM vs GEO	Statistical analysis ARM vs MDA	Statistical analysis GEO vs MDA
a	P < 0.001***	P < 0.001***	> 0.05 ns
b	P < 0.001***	P < 0.001***	> 0.05 ns
c	P < 0.001***	P < 0.001***	> 0.05 ns

Awareness of Prohibited List

Table III-16. Q12. Distribution of responses in a Coaches samples (N=90 per country).

Q12. If an athlete used a banned *Stimulants* in out-of-competition period do you think this would be an anti-doping rule violation?	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	**P**
Yes,%	35.6	60.0	80.2	ARM vs GEO	> 0.001***
No,%	54.4	38.9	13.2	ARM vs MDA	> 0.001***
Don't know,%	10.0	1.1	6.6	GEO vs MDA	> 0.05 ns
Total ,%	***100***	***100***	***100***		

A vast majority of Coaches (>60%) in Moldova and Georgia are sure that stimulants are prohibited all time. In contrast to it, the picture obtained in Armenia is better, only 36% Coaches believe that the stimulants are prohibited only in competitions. f (Table III-16). As can be seen from Table III-7, the statistically significant differences were found between Armenia and other two countries.

Awareness of CODE

Over past 3 years in Armenian and Georgian media was often discussed the topic that athletes of certain nationalities are tested more often than others, it was interesting to know the opinion of coaches about this.

Table III-17 shown that more than half of Coaches (60%) believes that Risk of sport is a major factor affecting the number of tests, however, about 15-20% of participants in Georgia and Moldova does not have any answer to the question.

Table III-17 Q13. Distribution of responses in a Coaches samples (N=90 per country).

Q13. Do you think the number of tests carried out on an athlete is chosen based on the risk of using doping in that sport or based on the nationality of athletes?	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	**p**
Risk in that sport	86.7	80.0	60.4	ARM vs GEO	> 0.001***
Athlete nationality	10.0	4.4	13.2	ARM vs MDA	> 0.001***

Don't know	3.3	15.6	26.4	GEO vs MDA	> 0.05 ns
***Total*, %**	***100***	***100***	***100***		

III-6. PERCEIVED MOTIVATIONS OF DOPING ATHLETES

This part of Questionnaires included the factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping and also the coaches beliefs about doping in sport.
The following factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping.
We ask the coaches based on their experience as a coach, please indicate how strongly you agree or disagree with each factor as a potential influence in athletes' decision to dope.

Believe of a sufficient reason for using Doping.

Economic/monetary reasons
Most participants in all three countries believe that the Economic is not a main reason for using Doping. The same situation is regarding "To speed up recovery from injury" (Table III-9) and "To improve their performance" for Georgia and Moldova. In Armenia more than 67% believe that it is a sufficient reason for using Doping.
More than 80% of participants in Georgia and Moldova believe that the terms "To prolong their career in sport" and "Due to peer pressure" is not a main reason for using Doping. In contrast the Armenia`s coaches believe that many athlete can decide use the prohibited substance to prolong their career in sport.

Table III-18. Q14. Distribution of responses in an Coaches samples (N=90 per country).

Q14a. Economic/monetary reasons	**Armenia**	**Georgia**	**Moldova**
Agree	36	21.1	24.2
Disagree	54	78.9	75.8
Total ,%	***100***	***100***	***100***
14b. To speed up recovery from injury	**Armenia**	**Georgia**	Moldova
Agree	30	23.3	25.3
Disagree	60	76.7	74.7
Total ,%	***100***	***100***	100
Q14c. To improve their performance	**Armenia**	**Georgia**	Moldova
Agree	68	21.1	24.2
Disagree	22	78.9	75.8
Total ,%	***100***	***100***	100
Q14d. To prolong their career in sport	**Armenia**	**Georgia**	**Moldova**
Agree	42	16.7	18.7
Disagree	58	83.3	81.3
Total ,%	***100***	***100***	***100***
Q14e. Due to peer pressure	**Armenia**	**Georgia**	**Moldova**
Agree	21	8.9	9.9
Disagree	79	91.1	90.1
Total ,%	***100***	***100***	***100***

At the same time, the answers were distributed on the whole in the same way in Georgia and Moldova ($p>0.05$), but it was statistical significant difference with Armenia.

Q14	Statistical analysis (***p***)		
	ARM vs GEO	ARM vs MDA	GEO vs MDA
a	< 0.05*	>0.05 ns	> 0.05 ns
b	> 0.05 ns	> 0.05 ns	> 0.05 ns
c	< 0.001***	< 0.001***	> 0.05 ns
d	< 0.001***	< 0.001***	> 0.05 ns
e	< 0.001**	< 0.05*	> 0.05 ns

Most participants in all three countries believe that the main reason for using Doing is "To improve their performance". At the same time, the answers were distributed on the whole in the same way (p>0.05), despite some difference in individual answers "To improve their performance".

Table III-19. Q15. Distribution of responses in Coaches' samples (N=90 per country).

Armenia				
Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	3.3	14.4	35.6	46.7
b. The current system of drug testing is effective in catching dopers *out of competition*	5.6	11.1	38.9	44.4
c. Anti-doping education programs are effective in deterring athletes from doping	4.4	7.8	38.9	48.9
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	3.3	21.1	42.2	33.4
Georgia				
Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	6.7	10.0	65.6	17.7
b. The current system of drug testing is effective in catching dopers *out of competition*	6.7	21.1	56.7	15.5
c. Anti-doping education programs are effective in deterring athletes from doping	6.7	13.3	64.4	15.6
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	10.0	17.8	60.0	12.2
Moldova				
Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	6.6	12.1	62.6	18.7
b. The current system of drug testing is effective in catching dopers *out of competition*	6.6	20.9	57.1	15.4
c. Anti-doping education programs are effective in deterring athletes from doping	5.5	14.3	63.7	16.5
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping\	8.8	17.6	60.4	13.2

Q15	Statistical analysis (***p***)			
	a	**b**	**c**	**d**
ARM vs GEO	< 0.01**	< 0.001***	< 0.001***	< 0.05*
ARM vs MDA	< 0.01**	< 0.001***	< 0.001***	< 0.05*
GEO vs MDA	> 0.05 ns	> 0.05 ns	> 0.05 ns	> 0.05 ns

The distribution of answers regarding the effectiveness of the current system of in-competition and Out-of-competition testing is following: 60 more than 70% of coaches believe that the Out-of-competition and In-competition testing. The same situation was registered for education program and sanction in all three countries. A statistical difference between Armenia and other countries due to the difference between the answers "Strongly agree" and "Agree" (Table III-19).

Table III-20. Q16. Distribution of responses in a Coaches samples (N=90 per country).

Q16. Do you have any suggestions for how the current drug testing and sanctions system could be improved?	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	97.8	97.8	96.7
YES	2.2	2.2	3.3
Total ,%	***100***	***100***	***100***

Table III-21. Q17. Distribution of responses in an Coaches samples (N=90 per country).

Q 17. Do you have any suggestions for how the content or delivery of anti-doping education could be improved?	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	88.9	94.4	94.5
YES	11.1	5.6	5.5
Total ,%	***100***	***100***	***100***

Vast majority of participant are satisfied with the current drug testing, sanctions and education system. The 11% of participants ask ARM-NADO renew a TV show about the risk of doping (Table III-20 and Table III-21).

Table III-22. Q18. Distribution of responses in a Coaches samples (N=90 per country).

Q18a. The media blows the doping issue out of proportion	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	61	31.1	33.0
YES	39	68.9	67.0
Total ,%	***100***	100	100
Q18b. Legalizing performance enhancements would be beneficial for sports	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	82	91.1	90.1
YES	18	8.9	9.9
Total ,%	***100***	***100***	***100***

More than half of coaches in Georgia and Moldova believe that the media blows the doping issue out of proportion an opposite situation was registered in Armenia where the media practically does not interfere in our work after the formation of the Agency and after creating the special page on Facebook. Practically all coaches (> 80%) in all countries were against Legalizing of performance enhancements substances.

Table III-23. Q19. Distribution of responses in a Coaches samples (N=90 per country).
Armenia

Q19. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. It is expected of me that I deter the athletes I work with from doping	5.6	5.6	30.0	58.8

b. I feel under pressure in my role as a coach to promote anti-doping	6.7	18.9	26.7	47.7
c. I plan to provide anti-doping information to athletes I work with	6.7	8.9	25.6	58.8
d. Athletes' opinions about doping are beyond my control	5.6	32.2	21.1	41.1
e. I would provide information to an athlete on how to plan and execute a doping program	6.7	8.9	25.5	58.9
f. I expect that I would take disciplinary action against an athlete who I discovered was engaging in doping	85.6	8.9	3.3	2.2

Georgia

Q19. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. It is expected of me that I deter the athletes I work with from doping	6.7	8.9	25.6	58.7
b. I feel under pressure in my role as a coach to promote anti-doping	7.8	8.9	26.7	56.6
c. I plan to provide anti-doping information to athletes I work with	6.7	17.8	31.1	44.4
d. Athletes' opinions about doping are beyond my control	5.6	7.8	26.6	60.0
e. I would provide information to an athlete on how to plan and execute a doping program	6.7	28.9	24.4	40.0
f. I expect that I would take disciplinary action against an athlete who I discovered was engaging in doping	5.6	10.0	26.7	57.7

Moldova

Q19. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. It is expected of me that I deter the athletes I work with from doping	18.7	81.3	0	0
b. I feel under pressure in my role as a coach to promote anti-doping	7.7	25.3	3.3	63.7
c. I plan to provide anti-doping information to athletes I work with	6.6	39.6	2.2	51.6
d. Athletes' opinions about doping are beyond my control	5.5	26.4	3.3	64.8
e. I would provide information to an athlete on how to plan and execute a doping program	6.6	52.7	39.6	1.1
f. I expect that I would take disciplinary action against an athlete who I discovered was engaging in doping	15.4	35.2	0	49.4

More than half of participants agree with the statement presented in Table III-23 a, b, c, d, e in Armenia and Georgia. The big difference was obtained in point "f" "I expect that I would take disciplinary action against an athlete who I discovered was engaging in doping". In Armenia 95% of Coaches were disagree with this statement. In contrast in Georgia 84% of participants agreed and strongly agreed. In Moldova were shared into two parts. The statistical significant difference also was found between Moldova and other countries in the term "It is expected of me that I deter the athletes I work with from doping". All Coaches in Moldova disagreed with this statement.

The believes of coaches on the extent to which coaches can contribute to the positive attitude of athletes towards doping is highly divided. If in some aspects, such as "Showing favoritism towards the best athletes in the group", the survey participants in Armenia and Moldova are similar in their answers, then in other points the opinions are divided (Table III-24).

Table III-24. Q20. Distribution of responses in Coaches' sample (N=90 per country).
Armenia

Q20. To what extent do you agree or disagree that the following behaviors of coaches contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	16.7	20.0	36.7	26.6
b. Punishing mistakes by shouting at or dropping the athlete in question	16.7	22.2	25.5	35.6
c. Showing favoritism towards the best athletes in the group	48.9	37.8	7.7	5.6
d. Actively encouraging rivalry between team-mates/training partners	15.5	7.8	70.0	6.7

Georgia

Q20. To what extent do you agree or disagree that the following behaviors of coaches contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	63.3	28.9	3.3	4.5
b. Punishing mistakes by shouting at or dropping the athlete in question	15.6	18.9	36.7	28.8
c. Showing favoritism towards the best athletes in the group	23.3	25.6	37.8	13.3
d. Actively encouraging rivalry between team-mates/training partners	32.2	18.9	6.7	42.2

Moldova

Q20. To what extent do you agree or disagree that the following behaviors of coaches contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	52.7	28.6	2.2	16.5
b. Punishing mistakes by shouting at or dropping the athlete in question	16.5	34.1	1.1	48.3
c. Showing favoritism towards the best athletes in the group	24.2	37.4	4.3	34.1
d. Actively encouraging rivalry between team-mates/training partners	31.9	26.4	2.2	39.5

Table III-24 show that more than 70% of coaches in Armenia will report to NADO if they knew that an athlete accepted a prohibited substance. The number of participants in Georgia and Moldova whom believes is same were two time small. In contrast 37% of participants in Georgia and 53% in Moldova were sure that they will report to National Federation. Only little percent of Coaches will explain to the athlete how to take a prohibited substance.

Table III-24. Q21. Distribution of responses in Coaches' sample (N=90 per country).

Q 21. To what extent do you think you would do each of the following if you saw or knew that an athlete accepted or bought a prohibited substance?	**Armenia,%**	**Georgia,%**	**Moldova,%**
I will report this to the anti-doping organization	73.3	30.0	31.9
I will report this to the sports federation	10.0	37.8	52.7
I will talk with the athlete	11.1	18.9	0
I will explain to the athlete how to take it	5.6	13.3	15.4
I will not take any action	0	0	0
Total ,%	***100***	***100***	***100***

Table III-25. Q22. Distribution of responses in Coaches samples (N=90 per country).

Q 22. If you are sure that your athlete can only be tested at competitions, would you recommend him/her to take a prohibited substances at the out-of-competition period if you	**Armenia,%**	**Georgia,%**	**Moldova,%**

knew for sure that by the time of the competition this substance cannot be detected in their urine sample?			
Definitely would recommend	6.7	0.0	8.8
Probably would	0.0	0.7	23.1
Unsure – might or might not	2.2	30.4	61.5
Probably would not	17.8	21.1	4.4
Definitely would not	73.3	47.8	2.2
Total	***100***	***100***	***100***

As expected from the answers to the question, the majority of coaches in Armenia (>70%, p>0.05) will not recommend the athlete to take some prohibited substances (Table III-25).

As show Table III-25 in Moldova, 61% of coaches are unsure will they recommended or not) are well aware of the procedure and importance of obtaining a permit to use the prohibited substance or methods. In Georgia and Moldova a situation is not so good and probably in these countries more attention should be paid to this issue during education seminars.

Table III-26 show that vast majority of participants in all three country know that the athlete have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE.

Table III-26. Q23. Distribution of responses in Coaches samples (N=90 per country).

Q 23. If one of your athletes needed to receive a TUE, is it a prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Yes – in all cases	82.2	83.3	75.8
Only in some cases	15.6	2.2	4.4
No	2.2	8.9	14.3
Don't know	0	5.6	5.5
Total	***100***	***100***	***100***

Table III-27. Q24. Distribution of responses in Coaches samples (N=90 per country).

Q24. If your athlete received information on how long a particular prohibited substance would take to be removed from their body, which of these actions would you be most likely to take?	**Armenia,%**	**Georgia,%**	**Moldova,%**
I would tell them to ignore that information and to never use any prohibited substance	94.4	86.7	67.0
I would make the appropriate calculations and recommend using this substance on that basis	4.4	10.0	9.9
I would check the information via the Internet or from sports doctors and on the basis of the information received, recommend it to be used or not	1.1	3.3	23.1
Total	***100***	***100***	***100***

The data in Table III-27 clearly shows that almost all Coaches in Armenia and Georgia are ready to dissuade their athletes from using prohibited substance**.** The difference situation was obtained in Moldova. More than 20% of participant first they think to get a doctor's advice, or information from the Internet, and only then make a decision.

Table III-28. Q25. Distribution of responses in Coaches samples (N=90 per country).

Q25. Overall, what do you think are the three major challenges to being a coach these days in Armenia (Moldova, Georgia)?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Low salary	84.5	84.4	83.5
Pressure of sport administrators	13.3	6.7	6.6
Not the desire of young men to play sports	2.2	8.9	9.9
Total	***100***	***100***	***100***

We conclude that in this matter, the point concerning a small salary should be removed in future questionnaires. Even before the survey, we all knew that trainers have very low salaries (about $200 per month) in all three countries (Table III-28).

Table III-29. Q26. Distribution of responses in Coaches samples(N=90 per country).

Q26. What are the three things you enjoy most about being a coach?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Work with youth and children	83.3	61.2	64.8
Preparing a healthy generation	16.7	4.4	4.4
The feeling that I stayed in the sport	0.0	34.4	30.8
Total	***100***	***100***	***100***

The most popular answers to this question were "Work with youth and children" in all countries and near 1/3 of participants in Georgia and Moldova agreed that "The feeling that I stayed in the sport" were also important for coaches (Table III-21).

c. SIMILARITIES AND DIFFERENCES BETWEEN COUNTRIES. RESULTS OF ATHLETES' SURVEY

In the first year of research, the survey of athletes was conducted in the main in order to find out how different the attitude of athletes to doping compared to coaches, and also to find out the presence of differences and similarities between countries in this matter. The research team tried, whenever possible, to include in the list of participants 5 athletes training with the same coach. Unfortunately, this turned out to be not possible for team sports disciplines, where in most cases the manager (major coach) of the team was chosen for Survey.

Table III-30 Q7. Distribution of responses in an Athletes samples (N=270 per country).

Q7. From who have you most often received information about banned substances in sport?	**Armenia,%**	**Georgia, %**	**Moldova,%**	Statistical analysis	p
Team Doctor	53.0	55.6	48.5		
Internet	12.6	12.2	11.9	ARM vs GEO	$> 0.05^{ns}$
Team Manager Coach	11.9	12.2	17.4	ARM vs MDA	$> 0.05^{ns}$
Other Coach	10.7	9.3	11.9	GEO vs MDA	$> 0.05^{ns}$
NADO	11.1	10.0	9.6		
TV	0.7	0.7	0.7		
Total	***100***	***100***	***100***		

Table III-31. Q8 Distribution of responses in an Athletes samples (N=270 per country).

Q8. During your athlete career have you	**Armenia,%**	**Georgia,%**	**Moldova,%**	Statistical analysis	p

ever been asked your coach for information about doping?					
Yes - Often	17.8	34.8	21.1		
Yes – Occasionally	20.4	20.0	26.3	ARM vs GEO	> 0.05^{ns}
Yes, but rarely	20.4	16.3	30.4	ARM vs MDA	<0.01**
No	41.4	28.9	22.2	GEO vs MDA	<0.01**
Total, %	***100***	***100***	***100***		

As the Coaches the Athletes were asked to nominate up to three sources from whom they had received information about banned substances. Their response is presented in Table IV-1.
Table III-30 shows that the half of participants in all countries has received information about banned substances in sport either from team doctors (>40%).

Table III-32. Q9. Distribution of responses in an Athletes samples (N=270 per country).

Q9. If a prohibited substance was found in an athlete's urine sample, who do you think is primarily responsible for such a violation of the anti-doping rules?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Athlete	81.9	81.8	70.4
Team Doctor	16.3	16.7	10.0
Coach	1.4	1.1	7.4
Don't know	0.4	0.4	12.2
Total, %	***100***	***100***	***100***

There is no significant difference between Armenia and other countries in contrast of coaches.
As in the case of coaches, it was interesting to know how often athletes turn to coaches to get information about doping.

Table III-31 shows that around 40% athletes in Armenia never asked his coaches regarding the doping. However, Moldova`s athletes has a much higher proportion responding 'Yes- but rarely' and 34% in Georgia answers were 'Yes- often'. It was also interesting to compare the attitude of athletes from different countries to the possible annual compulsory testing.
The analysis of Athletes answers show that a similar situation was noted for three country, and more than 70% of Athletes are agree that athlete is primarily responsible for such a violation of the anti-doping rules (Table III-33).

Table III-34 shows that the mare that half of athletes believed that for testing and disqualification of the national level athletes are responsible the National Anti-Doping organizations. The situation is not significant different in all three countries, but in Moldova >10% of athletes sure that the Ministry of Sport also participant in the testing and disqualification process, and it is likely that the future Education program for athletes will need to pay special attention to explaining the roles and responsibilities of the various anti-doping organizations.

The same picture was obtained regarding International top level athletes. It is encouraging that many athletes already have information about role and responsible of the International Testing Agency.

Table III-34. Q10 Distribution of responses in an Athletes samples (N=270 per country). Which Anti-Doping organizations are primarily responsible for the following actions?

Q10a. a. Planning and implementation of the Testing of National level athletes	**Armenia,%**	**Georgia,%**	**Moldova,%**	Statistical analysis	p
National Anti-Doping Organization	81.9	81.1	63.0	ARM vs GEO	> 0.05 ns
National Federation	11.5	11.1	17.4	ARM vs MDA	<0.001***
Ministry of Sport	4.1	4.8	10.0	GEO vs MDA	<0.001***
NOC	2.6	3.0	5.2		
WADA	0	0	4.4		
Total *,%*	***100***	***100***	***100***		
b. Control of effectiveness of Testing and disqualification of National level athletes	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	p
National Anti-Doping Organization	73.0	64.1	54.8	ARM vs GEO	> 0.05 ns
National Federation	7.0	16.3	19.3	ARM vs MDA	<0.001***
Ministry of Sport	14.8	12.6	13.3	GEO vs MDA	> 0.05 ns
NOC	2.2	3.3	6.3		
WADA	3.0	3.7	6.3		
Total *,%*	***100***	***100***	***100***		
c. Planning and implementation of the Testing of International top level athletes	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	p
National Anti-Doping Organization	56.7	52.6	39.6	ARM vs GEO	> 0.05 ns
National Federation	21.5	19.6	16.3	ARM vs MDA	<0.001***
Ministry of Sport	12.6	14.8	9.6	GEO vs MDA	<0.001***
NOC	7.8	9.3	7.8		
WADA	1.4	3.7	26.7		
Total *,%*	***100***	***100***	***100***		
d. International level Athletes Disqualification	**Armenia**	**Georgia**	**Moldova**	Statistical analysis	p
National Anti-Doping Organization	28.1	28.6	28.1	ARM vs GEO	> 0.05 ns
International Testing Agency	45.2	29.6	16.7	ARM vs MDA	> 0.05 ns
Ministry of Sport	4.8	8.5	9.3	GEO vs MDA	> 0.05 ns
NOC	3.0	5.9	5.6		
WADA	15.9	27.0	39.6		
International Federation	3.0	0.4	0.7		
Total *,%*	***100***	***100***	***100***		

Table III-35. Q11. Distribution of responses in an Athletes samples (N=270 per country).

Q11a. How many athletes in your sport do you believe engage in doping?	**Armenia,%**	**Georgia,%**	**Moldova,%**
0-1%	78.9	56.7	53.3
10-20%	15.9	11.5	17.0
40-60%	0.4	4.1	2.6
60-80%	3.0	4.8	1.1
90%	1.9	0	25.9
Don't know	0	23.0	53.3
Total ,%	***100***	***100***	***100***
Q11b. How many elite athletes in your country do you believe engage in doping?	**Armenia**	**Georgia**	**Moldova**
0-1%	63.0	55.6	48.9
10-20%	15.9	20.0	16.3
40-60%	20.7	5.2	4.8
60-80%	0.4	0	1.1
90%	0	0	28.9
Don't know	0	19.3	48.9
Total ,%	***100***	***100***	***100***
Q11c. How many elite athletes do you believe will be engaged in doping during the last year?	**Armenia**	**Georgia**	**Moldova**
0-1%	68.9	55.2	43.7
10-20%	8.9	14.8	17.8
40-60%	21.1	7.0	10.0
60-80%	1.1	2.2	3.3
90%	0	20.7	25.2
Don't know	0	0	0
Total ,%	***100***	***100***	***100***

	Statistical analysis (***p***)		
Q11	a	b	c
ARM vs GEO	< 0.001***	> 0.05 ^{ns}	< 0.001***
ARM vs MDA	< 0.001***	< 0.001***	< 0.001***
GEO vs MDA	> 0.05 ^{ns}	> 0.05 ^{ns}	> 0.05 ^{ns}

As shown in Table IV-5 despite the difference in the distribution of answers between countries most of the respondents in all countries Armenia and Georgia are sure that the number of athletes who use prohibited substances or methods is no more than 1%. The statistical difference between Armenia and other countries is due to the fact that a large percentage of participants in Georgia and Moldova responded "Don't know".

Regarding the use of substances prohibited only in competition period the responses in Athletes and Coaches is same.

As in the case of Coaches (92%), more than 70% of Athletes are sure that stimulants can be determined by the athlete's tests for more than 60 days, or they do not know that they are prohibited only during the competition period. As can be seen from Table III-36, the situation in all three countries is the same and no statistically significant differences were found.

Table III-36. Q12 Distribution of responses in an Athletes samples (N=270 per country).

Q12. If an athlete used a banned Stimulants in out-of-competition period do you think this would be an anti-doping rule violation?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Yes	50.4	40.7	80.0
No	36.3	47.4	13.3
Don't know	13.3	11.9	6.7
Total, %	***100***	***100***	***100***

As in the case of Coaches (92%) a more than 70% of Athletes are sure that stimulants can be determined by the athlete's tests for more than 60 days, or they do not know that they are prohibited only during the competition period. As can be seen from Table III-36, the situation in all three countries is the same and no statistically significant differences were found.
Vast majority (80%) responders in Moldova and more than half of Athletes are sure that stimulants are prohibited at all times. In Georgia the picture is better, only 41% Coaches believe that the stimulants are prohibited only in competitions (Table III-36).
As can be seen from Table III-37, the statistically significant differences were found between Armenia and other two countries. The results shown that more than half of Athletes (60%) believes that Risk of sport is a major factor affecting the number of tests; however, leader is Georgia where 90% of athletes believe that risk of sport is major request for intensive testing.

Table III-37. Q13. Distribution of responses in an Athletes samples (N=270 per country).

Q13. Do you think the number of tests carried out on an athlete is chosen based on the risk of using doping in that sport or based on the nationality of athletes?	**Armenia,%**	**Georgia,%**	**Moldova,%**	Statistical analysis	p
Risk in that sport	74.8	91.1	60.4	ARM vs GEO	<0.001***
Athlete nationality	16.7	8.9	15.9	ARM vs MDA	<0.001***
Don't know	8.5	0	23.7	GEO vs MDA	<0.001***
Total, %	***100***	***100***	***100***		

The following factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping.
We ask the participants based on their experience as an athlete, indicate how strongly they agree or disagree with each factor as a potential influence in athletes' decision to dope.

Economic/monetary reasons
Except in Armenia, the majority of participants in Georgia and Moldova believe that economics is not a main reason for using Doping. In contrast a vast majority of Athletes in Armenia and Georgia believe that "*To speed up recovery from injury"* is important reason for use the doping (Table III-38) in Moldova more than half of Athletes disagree with the reason. The reason of **"***To improve their performance"* for Georgia and Moldova is not important. In Armenia more than half of athletes believe that it is a sufficient reason for using Doping.
More than 80% of participants in Georgia and Moldova believe that the terms "To prolong their career in sport" and *"Due to peer pressure*" is not a main reason for using Doping. In contrast the Armenia`s athletes believe that many athlete can decide use the prohibited substance to prolong their career in sport.
Table III-38. Q14. Distribution of responses in an Athletes samples (N=270 per country).

Q14a. Economic/monetary reasons	**Armenia,%**	**Georgia,%**	**Moldova,%**
Agree	50.7	26.7	25.6
Disagree	49.3	73.3	74.4
Total ,%	***100***	***100***	***100***
14b. To speed up recovery from injury	**Armenia**	**Georgia**	**Moldova**
Agree	73.7	70.4	32.6
Disagree	26.3	29.6	67.4
Total ,%	***100***	***100***	***100***
Q14c. To improve their performance	**Armenia**	**Georgia**	**Moldova**
Agree	53.0	25.9	30.4
Disagree	47.0	74.1	69.6
Total ,%	***100***	***100***	***100***
Q14d. To prolong their career in sport	**Armenia**	**Georgia**	**Moldova**
Agree	80.7	20.4	27.8
Disagree	19.3	79.6	72.2
Total ,%	*100*	*100*	*100*
Q14e. Due to peer pressure	**Armenia**	**Georgia**	**Moldova**
Agree	68.2	17.4	21.1
Disagree	32.2	82.6	78.9
Total ,%	***100***	***100***	***100***

Statistical analysis (***p***)

Q14	a	b	c	d	e
ARM vs GEO	> 0.05 ^{ns}	> 0.05 ^{ns}	<0.001***	<0.001***	<0.001***
ARM vs MDA	<0.001***	<0.001***	<0.001***	<0.001***	<0.001***
GEO vs MDA	< 0.001	> 0.05 ^{ns}	> 0.05 ^{ns}	> 0.05 ^{ns}	> 0.05 ^{ns}

Table III-39. Q15. Distribution of responses in an Athletes samples (N=270 per country).

Armenia				
Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	35.6	5.7	50	8.9
b. The current system of drug testing is effective in catching dopers *out of competition*	35.2	11.5	36.3	17
c. Anti-doping education programs are effective in deterring athletes from doping	21.1	14.5	23.7	40.7
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	27.4	11.2	13.3	48.1

Georgia

Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	3.0	45.2	30.7	21.1
b. The current system of drug testing is effective in catching dopers *out of competition*	10.0	9.3	62.6	18.1
c. Anti-doping education programs are effective in deterring athletes from doping	9.6	22.6	52.6	15.2
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	10.4	15.9	60.0	13.7

Moldova				
Q15. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
a.The current system of drug testing is effective in catching dopers *in-competition*	15.9	10.4	54.8	18.9
b. The current system of drug testing is effective in catching dopers *out of competition*	11.1	17.4	53.3	18.2
c. Anti-doping education programs are effective in deterring athletes from doping	7.0	17.8	56.3	18.9
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	12.6	20.7	52.6	14.1

Statistical analysis (***p***)

Q15	a	b	c	d
ARM vs GEO	<0.001**	<0.001***	<0.001***	<0.001***
ARM vs MDA	<0.001***	<0.001***	<0.001***	<0.001***
GEO vs MDA	< 0.001***	> 0.05 ^{ns}	> 0.05 ^{ns}	> 0.05 ^{ns}

The distribution of answers regarding the effectiveness of the current system of in-competition and out-of-competition testing is as follows: more than half of Athletes believe that the out-of-competition and In-competition testing believe that current system of testing is effective. The same situation was registered for education program and sanction in all three countries.

A statistical difference between Armenia and other countries due to the difference between the answers "Strongly agree" and "Agree" (Table III-39).

Table III-40. Q16. Distribution of responses in an Athletes samples (N=270 per country).

Q16. Do you have any suggestions for how the current drug testing and sanctions system could be improved?	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	97.4	96.7	96.3
YES	2.6	3.3	3.7
Total ,%	***100***	***100***	***100***

Table III-41. Q17. Distribution of responses in an Athletes samples (N=270 per country).

Q 17. Do you have any suggestions for how the content or delivery of anti-doping education could be improved?	**Armenia,%**	**Georgia,%**	**Moldova,%**
NO	96.3	96.7	95.9
YES	3.7	3.3	4.1
Total ,%	***100***	***100***	***100***

All participants agree that the current testing, sanctions and education system is effective and no need to improve (Table III-39 and Table III-40).

Table III-42. Q18. Distribution of responses in an Athletes samples (N=270 per country).

Q18. To what extent do you agree or disagree with the following statements?	**Armenia,%**		**Georgia,%**		**Moldova,%**	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
a. There is no difference between drugs and the technical equipment	30.0	70.0	38.1	61.9	31.1	68.9
b. The media blows the doping issue out of proportion.	77.0	23.0	76.7	23.3	66.3	33.7
c. Legalizing performance enhancements would be beneficial for sports.	31.5	68.5	29.3	70.7	25.6	74.4

Statistical analysis (***p***)

Q18	a	b	c
ARM vs GEO	<0.05*	> 0.05 ns	> 0.05 ns
ARM vs MDA	> 0.05 ns	> 0.05 ns	> 0.05 ns
GEO vs MDA	> 0.05 ns	> 0.05 ns	> 0.05 ns

The vast majority of participants in all 3 countries disagree that there is no difference between prohibited substances and the technical equipment. More than half of Athletes believe that the media blows the doping issue out of proportion. More than half of responders (> 65%) in all countries were against Legalizing of performance enhancements substances (Table III-42).

Table III-43. Q19 Distribution of responses in an Athletes samples (N=270 per country).

Armenia

Q19. To what extent do you agree or disagree that the following coach behaviors could contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Slightly Agree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	70	20.4	7	2.6	0
b. Punishing mistakes by shouting at or dropping the athlete in question	77.8	15.9	5.9	0.4	0
c. Showing favoritism towards the best athletes in the group	14.8	26.7	38.5	19.6	0.4
d. Actively encouraging rivalry between team-mates/training partners	15.6	26.7	27.4	27	3.3

Georgia

Q19. To what extent do you agree or disagree that the following coach behaviors could contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Slightly Agree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	70	20.4	7	2.6	0
b. Punishing mistakes by shouting at or dropping the athlete in question	12.6	47.0	25.9	13.7	0.8
c. Showing favoritism towards the best athletes in the group	15.2	38.9	23.3	17.4	5.2
d. Actively encouraging rivalry between team-mates/training partners	43.0	45.6	5.6	4.4	1.4

Moldova

Q19. To what extent do you agree or disagree that the following coach behaviors could contribute to athletes being positively disposed toward doping?	Strongly Disagree	Disagree	Slightly Agree	Agree	Strongly Agree
a. Failing to reward effort/improvement by athletes	40.0	26.3	4.1	29.6	0
b. Punishing mistakes by shouting at or dropping the athlete in question	47.4	24.8	5.9	21.9	0
c. Showing favoritism towards the best athletes in the group	27.4	25.2	17.8	29.3	0.3
d. Actively encouraging rivalry between team-mates/training partners	13.7	30.4	23.7	28.5	3.7

Statistical analysis (***p***)

Q19	a	b	c	d
ARM vs GEO	> 0.05 ns	> 0.05 ns	< 0.05 *	> 0.05 ns
ARM vs MDA	< 0.001***	< 0.001***	> 0.05 ns	> 0.05 ns
GEO vs MDA	< 0.001***	< 0.001***	> 0.05 ns	> 0.05 ns

Table III-43 show that beliefs of Athletes on the extent to which coaches can contribute to the positive attitude of athletes towards doping is highly divided. If in some aspects, such as *"Failing to reward effort/improvement by athletes"* vast majority of Athletes disagreed with this term.

Table III-43. Q20. Distribution of responses in an Athletes samples (N=270 per country).

Q20. To what extent do you think you would do each of the following if you saw or knew that an athlete accepted or bought a prohibited substance?	**Armenia,%**	**Georgia,%**	**Moldova,%**
I will report this to the anti-doping organization	51.6	68.5	12.6
I will report this to the sports federation	33.3	18.5	24.1
I will talk with the athlete	8.1	7.4	56.7
I will explain to the athlete how to take it	6.3	5.6	5.1
I will not take any action	0.7	0	1.5
Total ,%	***100***	***100***	***100***

More than half of Athletes in Armenia and Georgia believe that will report to NADO if they knew that another athlete accepted a prohibited substance. The number of participants in Moldova whom believes is same were 3 time small. In contrast 57% of participants in Moldova were sure that they will talk with this athlete. Only little percent of athletes will explain to the athlete how to take a prohibited substance (Table III-43).

Table III-44. Q21. Distribution of responses in an Athletes samples (N=270 per country).

Q21. If you needed to receive a TUE, is it a prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance?	**Armenia,%**	**Georgia,%**	**Moldova,%**	Statistical analysis	**p**
Yes – in all cases	67.8	66.7	65.2		
Only in some cases	18.9	29.3	8.9	ARM vs GEO	> 0.05 ^{ns}
No	7.8	4.1	4.1	ARM vs MDA	> 0.05 ^{ns}
Don't know	5.6	0	21.9	GEO vs MDA	> 0.05 ^{ns}
Total ,%	***100***	***100***	***100***		

Table III-44 show that vast majority of participants in all three countries know that they have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE. The only one concern is that more than 20% respondents in Moldova did not know what to do

Table III-45. Q22. Distribution of responses in an Athletes samples (N=270 per country).

Q 22. If you received information on how long a particular prohibited substance would take to be removed from your body, which of these actions would you be most likely to take?	**Armenia,%**	**Georgia,%**	**Moldova,%**
I would tell ignore that information and to never use any prohibited substance	66.3	66.6	83.0
I would make the appropriate calculations and use this substance on that basis	30.4	29.3	8.9
I would check the information via the Internet or from sports doctors and on the basis of the information received, make the decision to use it or not	3.3	4.1	8.1
Total	***100***	***100***	***100***

The data in Table III-46 clearly shows that more that 60% of participants were ready to tell to his friends to ignore that information and to never use any prohibited substance but about 30% of athletes in Armenia and Georgia will make the appropriate calculations and use this substance on that basis.

Table III-46. Q23. Distribution of responses in an Athletes samples (N=270 per country).

Q 23. If you had the opportunity to improve your physical fitness by biomedical means or by doping for the same cost, what would be your choice?	**Armenia,%**	**Georgia,%**	**Moldova,%**
I would constantly undergo a biochemical and medical examination	92.2	83.7	92.6
I would choose dope as it is a reliable and proven way	7.8	16.3	7.4
Total	***100***	***100***	***100***

The vast majority of Athletes in all 3 countries were sure that they will choose the biochemical and medical examination against the use prohibited substances.

Table III-47. Q24. Distribution of responses in an Athletes samples (N=270 per country).

Q24. Overall, what do you think are the three major challenges to being an athlete these days in Armenia (Moldova, Georgia)?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Low salary	81.5	74.8	83.7
Lack of good conditions for training	18.5	24.4	16.3
Lack of government support	0	0.7	0
Total	***100***	***100***	***100***

We conclude that athletes who participant in the survey have very-very low salaries or do not receive any salary in all three countries (Table III-47).

Table III-48. Q25. Distribution of responses in an Athletes samples (N=270 per country).

Q25. What are the three things you enjoy most about being an athlete?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Opportunity to become a famous and recognizable person	74.8	73.7	73.3
The opportunity to participate in international competitions and see many other countries	24.4	26.3	26.5
Total	***100***	***100***	***100***

Vast majority of athlete enjoy have opportunity to become a famous and recognizable person (Table III-48).

Table III-49 Q26. Distribution of responses in an Athletes samples (N=270 per country).

Q26. How likely is it that an athlete at your level would be drug tested at least once a year?	**Armenia,%**	**Georgia,%**	**Moldova,%**
Very likely	51.6	74.8	74.8
Quite likely	33.3	24.4	14.1
Not very likely	8.1	0.8	9.6
Not at all likely	6.3	0	1.5
Don't know	0.7	0	0
Total ,%	***100***	***100***	***100***

The 75% of athletes in Georgia and Moldova like that they would be tested at least once a year. In Armenia the percentage was lower, but it is not statistical significant difference.

d. THE SIMILARITIES AND DIFFERENCES BETWEEN COACHES AND ATHLETES. STATISTICAL AND CORRELATION ANALYSIS.

In order to understand how coaches can influence the attitude of athletes to doping, a comparative statistical and correlation analysis was carried out showing the distribution of answers to those questions that were repeated in the questionnaires for coaches and athletes. Since the number of participants in the two compared groups (Coaches, n=90 participants, Athletes, n=270 participants, per country) differed sharply and most of the compared values are not Passed normality test we use the Kruskal–Wallis one-way analysis of variance test by ranks, the non-parametric method for testing whether samples originate from the same distribution.

One of the mechanisms for assessing the influence of coaches on the behavior of athletes is to conduct a correlation analysis of the results of the survey using the *Pearson (r) or Sperman (ρ) correlation* coefficient.

Probably, in order to understand how strong this influence is, it would be more correct to conduct such an analysis in those areas where there were no statistically significant differences in the results obtained from coaches and athletes.

Table III-50. Comparative analysis of Coaches and Athletes response to Q7

Q7. From who have you received information about banned substances in sport?	**Coaches (n=270)**	**Athletes (n=810)**
Team Doctor	47.9	52.4
Internet	10.3	12.2
Team Manager Coach	21.8	13.8
Other Coach	7.7	10.6
NADO	12.2	10.2
TV	0	0.7
p	$> 0.05^{ns}$	
ρ	0.9571	

The sufficient correlation of Surveys` results for Coaches and Athletes were obtained regarding the source from who they were received information about banned substances in sport. Most survey participants receive this information from the team doctor. The latter, as well as the absence of statistically significant differences in the distribution of other responses, allows us to conclude that coaches have a positive effect on athletes (Table III-50).

An analysis of the results in Table III-51 suggests that coaches are more likely to seek the opinion of their athletes. A more detailed analysis showed that this applies mainly to those coaches whose majority of athletes are elite athletes, and are more familiar with the Prohibited Lists, since in the participating countries this knowledge is mandatory for athletes included in the national RTP.

Table III-51. Comparative analysis of Coaches and Athletes response to **Q8**.

Q8.During your athlete/coaches career have you ever been asked your coach/athletes for information about doping?	**Coaches (n=270)**	**Athletes (n=810)**
Yes - Often	47.9	24.6
Yes – Occasionally	10.3	22.2
Yes- but rarely	21.8	22.4
No	7.7	30.8
p	> 0.01*	
ρ	0.673	

More than 70% of Coaches and Athletes surveyed are convinced that athletes are primarily responsible if a prohibited substance was found in the athlete's urine or blood sample, while there are also no statistically significant differences in the distribution of athletes and coaches responses. The absence of statistically significant differences and good correlation in the distribution of other responses, allows us to conclude that coaches have a positive effect on athletes.

Table III-52. Comparative analysis of Coaches and Athletes response to **Q9**

Q9. If a prohibited substance was found in the athlete's urine or blood sample, who do you think is primarily responsible for such a violation of the anti-doping rules?	**Coaches (n=270)**	**Athletes (n=810)**
Athlete	75.7	78.0
Team doctor	10.3	14.3
Coaches	5.2	3.3
Don't know	8.8	4.3
p	> 0.05^{ns}	
ρ	0.9891	

The analysis of the results regarding the primarily responsible of Anti-Doping organizations we can concluded the negative influence of coaches to athlete's beliefs. The absent of statistically significant differences in the distribution and good correlation between athletes and coaches responses see that the delusions of coaches about WADA responsibility and the role of National Ministry of Sport almost completely transferred to athletes (Table III-53).

Table III-53. Comparative analysis of Coaches and Athletes response to
Q10. "Which Anti-Doping organizations are primarily responsible for the following actions?"

a. Planning and implementation of the Testing of National level athletes	**Coaches (n=270)**	**Athletes (n=810)**
National Anti-Doping Organization	67.1	75.3
National Federation	16.0	13.3
Ministry of Sport	8.4	6.3
NOC	4.9	3.6
WADA	3.7	1.5
p	> 0.05^{ns}	
ρ	0.9891	

b. Control of effectiveness of Testing and disqualification of National level athletes	**Coaches (n=270)**	**Athletes (n=810)**
National Anti-Doping Organization	63.9	64.0
National Federation	12.9	14.2
Ministry of Sport	12.2	13.6
NOC	5.9	3.9
WADA	5.2	4.3
p	$> 0.05^{ns}$	
ρ	0.9787	

c. Planning and implementation of the Testing of International top level athletes	**Coaches (n=270)**	**Athletes (n=810)**
National Anti-Doping Organization	37.3	49.6
National Federation	25.1	19.1
Ministry of Sport	14.0	12.3
NOC	7.4	8.3
WADA	16.2	10.6
p	$> 0.05^{ns}$	
ρ (r)	0.931	

d. International level Athletes Disqualification	**Coaches (n=270)**	**Athletes (n=810)**
National Anti-Doping Organization	25.1	28.3
International testing Agency	28.1	30.5
Ministry of Sport	11.1	7.5
NOC	5.1	4.8
WADA	28.4	27.5
International Federation	2.2	1.4
p	$> 0.05^{ns}$	
ρ (r)	0.987	

The same situation was obtained on believes of coaches regarding a percent annual of Anti-Doping rules violation. It is surprising that athletes are more correctly informed about the situation in the world and in particular in their sports disciplines (Table III-54). This allows us to follow the likely conclusion that in this matter we cannot assume any influence of coaches on athletes.

Table III-54. Comparative analysis of Coaches and Athletes response to **Q11**

Q11a. How many athletes in your sport do you believe engage in doping?	**Coaches (n=270)**	**Athletes (n=810)**
0-1%	57.6	63.0
10-20%	14.8	14.8
40-60%	5.2	2.4
60-80%	0.0	3.0
90%	0.0	9.3
Don't know	22.4	25.4
p	$> 0.05^{ns}$	
ρ (r)	0.983	

Q11b. How many elite athletes in your country do you believe engage in doping?	**Coaches (n=270)**	**Athletes (n=810)**
0-1%	49.8	55.8
10-20%	23.3	17.4
40-60%	5.5	10.2
60-80%	0.4	0.5
90%	0.0	9.6
Don't know	21.0	22.7
p	$> 0.05^{ns}$	
ρ (r)	0.961	

Q11c. How many elite athletes do you believe will be engaged in doping during the last year?	**Coaches (n=270)**	**Athletes (n=810)**
0-1%	46.9	55.9
10-20%	29.9	13.8
40-60%	7.0	12.7
60-80%	1.5	2.2
90%	0.0	15.3
Don't know	14.7	0.0
p	$> 0.05^{ns}$	
ρ (r)	0.784	

Table III-55. Comparative analysis of Coaches and Athletes response to **Q12**

Q12. If an athlete used a banned *Stimulants* in out-of-competition period do you think this would be an anti-doping rule violation?	**Coaches (n=270)**	**Athletes (n=810)**
Yes	46.9	57.0
No	29.9	32.3
Don't know	7.0	10.6
p	$> 0.05^{ns}$	
ρ (r)	0.981	

Regarding the Prohibited List a relatively large number of participants, both Coaches and Athletes, are not familiar enough with the list. Despite the fact that in all educational seminars and in all booklets for coaches, substances and methods which are prohibited only during competitions are clearly indicated the coaches not only cannot explain the latter to athletes, but every time they turn to the NADO to get clarification on the question of whether athletes can use stimulators out of competition period. Therefore, probably we may again note the negative influence of coaches on athletes (Table III-55).

Table III-56. Comparative analysis of Coaches and Athletes response to **Q13**

Q13. Do you think the number of tests carried out on an athlete is chosen based on the risk of using doping in that sport or based on the nationality of athletes?	**Coaches (n=270)**	**Athletes (n=810)**
Risk in that sport	75.7	75.4
Athlete nationality	9.2	13.8
Don't know	15.1	10.7
p	$> 0.05^{ns}$	
ρ (r)	0.992	

Table III-56 shown that more than half of Coaches and Athletes (60%) believe that Risk of sport is a major factor affecting the number of tests, however, about 15% of Coaches and 10% of athletes does not have any answer to the question. This allows us to follow the likely conclusion that in this matter we can assume a positive influence of coaches on athletes.

Table III-57 shows that, the significant difference between athletes and Coaches believes was obtained for evaluation the factors of reasons behind athletes' decisions to get involved in performance enhancing substances.
The interesting difference were obtained only the factors "*To speed up recovery from injury" (*$p< 0.01$*; $\rho<0.8$)* and "*To improve their performance" (*$p <0.0001$*** and $\rho<0.8$).
Unlike coaches, athletes are not sure that main reason of use the prohibited substance and method is "*To improve their performance".*
It can be concluded that in this matter the influence of coaches on athletes is very insignificant.

Table III-57. Comparative analysis of Coaches and Athletes response to
Q14. "The following factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping. Based on your experience as a coach/athletes, please indicate how strongly you agree or disagree with each factor as a potential influence in athletes' decision to dope?"

Q14a. Economic/monetary reasons	**Coaches (n=270)**	**Athletes (n=810)**
Agree	**43.1**	**41.4**
	($p> 0.05^{ns}$; $\rho>0.9$)	
14b. To speed up recovery from injury		
Agree	**39.7**	**59.1**
	($p< 0.01$; $\rho<0.8$)*	
Q14c. To improve their performance		
Agree	**71.6**	**36.4**
	*($p<0.0001$***^{s}; $\rho<0.70$)*	

Q14d. To prolong their career in sport		
Agree	**48.1**	**43.8**
	(p> 0.05^{ns}; ρ>0.9)	
Q14e. Due to peer pressure		
Agree	**30.5**	**36.4**
	(p> 0.05^{ns}; ρ>0.8)	

The athletes in contrast with the coaches in all three countries much less agree that the current sanctions system is good and no need to improve *(p<0.001**; ρ<0.7)* (Table III-58).
However, when participants were asked to indicate whether the testing and education system needed to be improved (p > 0.05^{ns} and ρ>0.8), but vast majority of coaches and athletes did not have any suggestion for improvement (Table III-59).

Table III-58. Comparative analysis of Coaches and Athletes response to **Q15.**

Statement	**% agree**	
	Coaches (n=270)	**Athletes (n=810)**
The current system of drug testing is effective in catching dopers *in-competition*	**81.7**	**61.9**
	(p> 0.05^{ns}; ρ>0.9)	
The current system of drug testing is effective in catching dopers *out of competition*	**85.6**	**68.5**
	(p> 0.05^{ns}; ρ>0.8)	
Anti-Doping education programs are effective in deterring athletes from doping	**75.6**	**68.5**
	(p> 0.05^{ns}; ρ>0.8)	
The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping	**76.0**	**57.3**
	(p< 0.001*; ρ<0.7)	

Table III-59. Comparative analysis of Coaches and Athletes response to **Q16 and Q17**

Q16 Do you have any suggestions for how the current drug testing and sanctions system could be improved? **Q17** Do you have any suggestions for how the content or delivery of anti-doping education could be improved?	**% agree**	
	Coaches (n=270)	**Athletes (n=810)**
Improvement for drug testing and sanctions	**2.2**	**3.4**
	(p> 0.05^{ns}; r>0.9)	
Improvement for anti-doping education	**7.5**	**3.6**
	*(p> 0.001**; r<0.75)*	

Table III-60 shows that more than half of Coaches and more than 70% of Athletes believe that the media blows the doping issue out of proportion (p > 0.05ns and ρ>0.9).

With respect to the legalization of performance enhancements substances, Table III-60 shows that whilst the vast majority of both athletes and coaches in all three countries disagreed with this proposition, higher proportions of athletes in each country agreed with this proposition compared to coaches.
Despite the fact that statistically significant differences were not found in the answers of athletes and coaches ($p > 0.05^{ns}$), but, in general it can be concluded that in this matter the influence of Coaches on Athletes is not significant ($\rho<0.75$).

Table III-60. Comparative analysis of Coaches and Athletes response to **Q18**

Q18. To what extent do you agree or disagree with the following statements?	**% agree**	
	Coaches (n=270)	**Athletes (n=810)**
The media blows the doping issue out of proportion	**55.0**	**73.1**
	($p > 0.05^{ns}$; $\rho>0.9$)	
Legalizing performance enhancements drugs would be beneficial for sports	**12.3**	**28.6**
	($p > 0.05^{ns}$; $\rho<0.75$)	

Beliefs of athletes significantly different from the opinion of coaches on the extent to which coaches can contribute to the positive attitude of athletes towards doping are highly divided (Table III-61).

If in some aspects, such as *"Failing to reward effort/improvement by athletes" and "Showing favoritism towards the best athletes in the group"*, the answers of survey participants as coaches as well as athletes are similar in their answers, then in other points the opinions are divided.

Table III-61. Comparative analysis of Coaches and Athletes response to **Q19**

Q19. To what extent do you agree or disagree that the following coach behaviors could contribute to athletes being positively disposed toward doping?	**% agree**	
	Coaches (n=270)	**Athletes (n=810)**
Failing to reward effort/improvement by athletes	**29.8**	**16.9**
	$p > 0.05^{ns}$; $\rho>0.9$	
Punishing mistakes by shouting at or dropping the athlete in question	**58.7**	**24.3**
	$p < 0.046$; $\rho>0.8$*	
Showing favoritism towards the best athletes in the group	**34.9**	**50.4**
	$p > 0.05^{ns}$;; $\rho>0.9$	
Actively encouraging rivalry between team-mates/training partners	**58.2**	**24.4**
	$p > 0.01$; $\rho>0.8$*	

The beliefs of Athletes regarding 3 other aspects on the extent to which coaches can contribute to the positive attitude of athletes towards doping is differ sharply from the answers of the coaches. Approximately 2 times less athletes are convinced that the behavior of coaches indicated in the questionnaires cannot significantly influence their decision to use prohibited substances (Table III-61).

Table III-62. Comparative analysis of Coaches and Athletes response to **Q20**

Q 20. To what extent do you think you would do each of the following if you saw or knew that an athlete accepted or bought a prohibited substance?	**% agree**	
	Coaches (n=270)	**Athletes (n=810)**
I will report this to the ADO	**45.1**	**44.2**
I will report this to the sports federation	**33.6**	**25.3**
I will talk with the athlete	**10.0**	**24.1**
I will explain to the athlete how to take it	**11.4**	**5.7**
I will not take any action	**0.0**	**0.4**
p	$> 0.05^{ns}$	
ρ (r)	0.886	

However, there are a number of notable differences between the countries for both Coaches and Athletes. More than 40% of Coaches and Athletes are far more likely to report to their NADO (73.3%), whereas about 30% Coaches are more likely to report the behavior to their Sports Federation (Table III-62).
It is also of concern that only 11.4% of all Coaches and 6% of Athletes stated they would 'explain to the athlete how to take the substance'.
No statistically significant differences were not found in the answers of athletes and coaches, it can be concluded that in this matter the influence of coaches on athletes is significant r>0.8).

Table III-63. Comparative analysis of Coaches and Athletes response to **Q21**

Q 21. If one of your athletes needed to receive a TUE, is it a prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance?	**Coaches (n=270)**	**Athletes (n=810)**
Yes – in all cases	80.4	66.6
Only in some cases	7.4	19.0
No	8.5	5.3
Don't know	3.7	9.2
p	< 0.03*	
ρ (r)	0.977	

About 80% of Coaches in all three country know that the athlete have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE (Table III-63).

More than half of Athletes also know that they have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE.
But only one concern is that more than 15% Athletes believes that will do it only in some cases.
Despite the fact that statistically significant differences were found in the distribution the responses of athletes and coaches (p< 0.03*), but, in general it can be concluded that in this matter the positive influence of coaches on athletes is significant (r>0.9) (Table III-63).

Table III-64. Comparative analysis of Coaches and Athletes response to **Q22**

Q22. If your athlete received information on how long a particular prohibited substance would take to be removed from their body, which of these actions would you be most likely to take?	**Coaches (n=270)**	**Athletes (n=810)**
I would tell them to ignore that information and to never use any prohibited substance	82.7	72.0
I would make the appropriate calculations and recommend using this substance on that basis	8.1	22.9
I would check the information via the Internet or from sports doctors and on the basis of the information received, recommend it to be used or not	9.2	5.2
p	< 0.050*	
ρ (r)	0.92	

More than 80% of Coaches and 60% of Athletes were ready to tell to athletes (friends) to ignore that information and to never use any prohibited substance but about 23% of athletes in will make the appropriate calculations and use this substance on that basis. Only 9 and 5% of participant first they think to get a doctor's advice, or information from the Internet, and only then make a decision.
This beliefs is a reason of obtained statistical difference in disposition of response in coaches and athletes ($p < 0.050^*$). However we can make a conclusion regarding positive influence of Coaches to Athletes

e. TEAM AND INDIVIDUAL SPORT DISCIPLINE COMPARISON.

In our opinion, of particular interest was the comparison of results between representatives of team and individual sports disciplines. It is known that in teams of sports disciplines the opinion of the head coach and sometimes the sports director or chief manager of the team is decisive, in contrast to individual sports disciplines where each coach working with 3-5 athletes and the athletes see a team manager only at training camp or at big international sport event.

Previous research investigating (D. Boardley, J. Grix , J.Harkin, 2015) similar research questions was limited in that it only investigated these issues with bodybuilders. By extending this work to athletes from a range of team and individual sports, the current study has provided evidence that sliding scale and family and friends may be ubiquitous in prohibited substances and methods users, rather than being constrained to a particular physical activity context (team or individual sport disciplines).
The absence of significant differences between team and individual sports disciplines, both among coaches and athletes, obtained in our study once again confirms that the most important component in education programs for coaches, regardless of sports discipline, should be to increase the knowledge of coaches.
By extending current knowledge on the psychosocial processes that facilitate prohibited substances and methods use in sport and exercise, we believe the current findings make an important contribution to the collective efforts of researchers working towards the development of interventions aimed at deterring use.

SECTION VI: DISCUSSION

Primary outcomes

Hypotheses and objectives

This Study involves the investigation of athletes and coaches to understand the following:

- how athletes' and coaches' attitudes and beliefs about doping and doping education might be shaped by circumstances and cultures specific to their country with respect to sporting success;
- to what extent the state doping support system adopted in the USSR influenced the attitudes to doping of coaches in the EERADO countries and to what extent these in turn influenced the attitudes of their athletes;
- regardless of these cultural influences, to what extent insufficient knowledge of coaches about banned substances affects the attitudes and beliefs of coaches and their athletes towards doping; and
- what are the essential components of an education program for coaches in order to reduce their negative impact and ensure a positive impact on their athletes.

Hence the research will explore the following hypotheses:

Hypothesis 1: Social and cultural norms, perceived role and behavioral control beliefs (reflecting both internal and external control processes) will significantly predict coaches' attitudes and beliefs about doping and doping education (e.g., Lucidi et al., 2008, Fung and Yuan, 2006, Allen, Dimeo et al., 2015).

Analyzing the obtained results of similarities and differences between Armenia, Georgia and Moldova, it can be concluded that the differences in social and cultural norms in these countries to a much lesser extent determine the beliefs of coaches about doping, which can be transmitted to athletes. Despite the differences above the situation regarding Coaches' Beliefs about their role in Anti-Doping is approximately the same in all countries and shows that coaches understand their role in preventing the use of prohibited substances by their athletes.

To a much greater extent, the positive impact of coaches on their athletes depends on the degree of education and awareness of coaches in the anti-doping field.

With respect to differences between countries, it appears to be a need for greater education of Coaches in Moldova and Georgia with respect to reporting an athlete suspected of possessing a prohibited substance, and/or more proactive action by the NADOs in those countries to encourage and support such reporting, and a need for reducing the tolerance of doping by Coaches and Athletes in Moldova.

The only misconception of coaches, the cause of which is the legacy that remains from the propaganda that was conducted in the USSR and continues in the Russian media "all athletes use doping but only the USSR athletes are being sanctioned", is the attitude of coaches to the problem, which can be assessed as a negative impact on athletes, for example the Athletes beliefs regarding the legalizing performance enhancements drugs. All other differences are due more to the quality of work of the Anti-Doping Agencies than to differences in Social and cultural norms.

Hypothesis 2: Coaches' attitudes and beliefs about doping and their role in doping education will be reflected in their athletes' attitudes towards doping and doping susceptibility (Hovhannisyan A. et al., 2017).

The results of statistical analysis show that there was a big statistical difference between Athletes and Coaches beliefs.

Overall, and not unexpectedly, the results for all three countries combined showed a number of differences between Coaches' and Athletes' responses.

The significant difference and low correlation between athletes and Coaches beliefs was obtained for evaluation of some possible reasons behind athletes' decisions to get involved in performance enhancing substances and methods. The interesting difference was obtained on the responses regarding the factors "*To speed up recovery from injury"* and "*To improve their performance"*. Unlike coaches, athletes are not sure whether that main reason of the use of prohibited substance and method is "*To improve their performance"*. It can be concluded that in this matter the influence of coaches on athletes is very insignificant.

The athletes in contrast with the coaches in all three countries much less agree that the current sanctions system is good and there is no need of improvement. However, when participants were asked to indicate whether the testing, sanctions and education system needs to be improved, the vast majority of athletes as well as the coaches did not have any suggestion for improvement. The coaches in contrast to athletes are convinced and believe that the system of Anti-Doping education needs to be improved, especially increasing the awareness on doping issues in TV programs.

With respect to the legalization of performance enhancements substances, the vast majority of both athletes and coaches in all three countries disagreed with this proposition.
Despite the fact that statistically significant differences were not found in the answers of athletes and coaches, so in general it can be concluded that in this matter the influence of coaches on athletes is not significant.

Beliefs of athletes significantly different from the opinion of coaches on the extent to which coaches can contribute to the positive attitude of athletes towards doping are highly divided. If in some aspects, such as *"Failing to reward effort/improvement by athletes" and "Showing favoritism towards the best athletes in the group"*, the answers of survey participants as coaches as well as athletes are similar in their answers, then in other points the opinions are divided.
Approximately 2 times less athletes are convinced that the behavior of coaches indicated in the questionnaires cannot significantly influence on their decision to use prohibited substances.

Vast majority of Coaches in all three countries know that the athletes have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE. More than half of Athletes also know that they have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE. But the one concern is that more than 15% Athletes believes that they will do it only in some cases.

Significantly more than half Coaches and Athletes were ready to tell the athletes (friends) to ignore that information and to never use any prohibited substance but about 23% of athletes in will make the appropriate calculations and use this substance on that basis. This belief is a reason of obtained statistical difference but good correlation in disposition of response in coaches and

athletes. However we can make a conclusion regarding positive influence of Coaches to Athletes.
Despite the fact that statistically significant differences were found in the distribution of the responses of athletes and coaches, but, in general it can be concluded that in this matter the positive influence of coaches on athletes is significant.

Hypothesis 3: Coaches' completion of a research-informed, co-created Education Program will result in coaches' greater acceptance of their role in anti-doping, more positive attitudes to doping education, increased knowledge about doping, and more negative attitudes to doping.

An analysis of the results led to the conclusion that increasing the knowledge of coaches regarding the List of prohibited substances and methods in detail, the role and responsibility of International and National anti-doping organizations, including WADA, the statistics of anti-doping rule violations, the rights and obligations of coaches and athletes, as well as the role of coaches in anti-doping education should be a cornerstone in the educational programs carried out in the study participant's countries. In each country, attention should be paid to those aspects in which gaps in the knowledge of coaches are found.
For example, in Georgia and Moldova, there is a need to explain in detail which substances and why are prohibited only during the competition period, in Armenia, there is a need to explain in detail the principle of independence of the anti-doping organization from the Ministry of sport, and so on. In all three countries, the role of coaches in ensuring that athletes complete their whereabouts in a timely manner should be clearly explained.

Hypothesis 4: Changes in Coaches' beliefs and attitudes after the Education program will be reflected in their athletes, and the greater the desired change in the coaches, the greater will be the desired change in their athletes' attitudes towards doping and decreased susceptibility to doping.

Upon completion of the Study it was concluded that there was an increase in the volume of educational information on the NADO websites as well as on their pages in social networks. As an analysis of the results in Armenia, Moldova and to a lesser degree in Georgia showed that this situation arose due to the large volume of fake information on Russian-language sites, which then fell into direct translation into national newspapers and TV news. In particular, the articles featured phrases such as: "WADA doping officers", "WADA disqualified athletes at the national championship", etc.
The developed Education Program was tested in January-December 2022 in Armenia during seminars in the following sports: football, cycling, shooting, boxing, wrestling, fencing etc. at 18 Education seminars, which were attended by 418 participants: 126 (30%) coaches, athletes of various levels and different ages and athletes support staff (team doctors, administrators etc.).
Participants filled out a questionnaire consisting of three questions related to the topic under discussion. The questions were selected from among the questions used in the study, which were part of the questionnaire also used in the ADEL program.
The first time participants answered to questions 5 minutes before the start of the seminars, the second time 5 minutes after the end of the seminar. At the seminar we used the Presentations created for the Study:
The prohibited List
The testing procedure
The role and responsibility of ADOs
TUE procedure
If the comparison of the results before and after seminar show that Improvement is less than 20% all process of seminar included the quality of Presentation should be analyzed and weaknesses

should be identified and ways to correct them should be proposed. If necessary, in addition to a change in the quality or duration of the presentation, a new person can also be proposed as a lecturer. If the comparison of the results before and after seminar show that Improvement is more than 20%, the next seminar will be conducted in the same format and the same presentations will be used.
The average efficiency of the seminar dedicated to the Prohibited List was over 20% (24.3±3%). The authors believe that this format is optimal and recommend using it also for other countries-relevant aspects in educational seminars.
In addition, a new program was developed for preliminary assessment of the knowledge of individual groups of coaches: those working with athletes included in the national RTP and TP groups; coaches working with young athletes who participate in international competitions using the WADA Play True program. In 2023, special quizzes are planned and are already being held with the awarding of incentive prizes in the training camps of the national, youth and junior teams. Not only coaches, but also athletes are involved in quizzes. The analysis of the received data allowed the NADO to adjust its educational activities taking into account the knowledge levels of the participants

SECTION V: OVERALL CONCLUSIONS

The results of the work done of the Study allow us to make the following conclusions.

1. The analysis of the results of the first year of Study revealed no significant differences in attitudes towards doping in coaches and athletes' groups between the three countries participating in the Project. The latter suggests that the use of improved questionnaires, along with an increase in the number of survey participants in 2021, will allow obtaining more reliable data necessary for the development and implementation of new Education programs for three countries.

- The experience of the first year has shown that it will be necessary to make some significant changes in the study design.
- The minimum age and training experience in athletes group should be 15 years and 3 years respectively.
- The number of team sports discipline and individual sport discipline will be same in each country which will allow us to get more reliable results in the second year of Study.

2. The results of the second year of Study have shown that attitudes towards doping among coaches in all three countries differ slightly. Analyzing the obtained results of similarities and differences between Armenia, Georgia and Moldova, it can be concluded that the differences in social and cultural norms in these countries to a much lesser extent determine the beliefs of coaches about doping, which can be transmitted to athletes.
Despite the differences above the situation regarding Coaches' beliefs about their role in Anti-Doping is approximately the same in all countries and shows that coaches understand their role in preventing the use of prohibited substances by their athletes. To a much greater extent, the positive impact of coaches on their athletes depends on the degree of education and awareness of coaches in the anti-doping field.

3. Overall, and not unexpectedly, the result for all three countries combined has shown a number of differences between Coaches' and Athletes' responses.

The significant difference and low correlation between athletes and Coaches beliefs was obtained for evaluation of some possible reasons behind athletes' decisions to get involved in performance enhancing substances and methods. The interesting difference was obtained on the responses regarding the main reason of the use of prohibited substance and method. It can be concluded that in this matter the influence of coaches on athletes is very insignificant.

The athletes in contrast with the coaches in all three countries much less agree that the current sanctions system is good and there is no need of improvement. However, when participants were asked to indicate whether the testing, education and sanctions system needs to be improved, the vast majority of athletes as well as the coaches did not have any suggestion for improvement. The coaches in contrast to athletes are convinced and believe that the system of Anti-Doping education needs to be improved, especially increasing the awareness on doping issues in TV programs.

With respect to the legalization of performance enhancements substances, the vast majority of both athletes and coaches in all three countries disagreed with this proposition. Despite the fact that statistically significant differences were not found in the answers of athletes and coaches, so in general it can be concluded that in this matter the influence of coaches on athletes is not significant.

Beliefs of athletes significantly different from the opinion of coaches on the extent to which coaches can contribute to the positive attitude of athletes towards doping are highly divided. The beliefs of Athletes regarding these aspects on the extent to which coaches can contribute to the positive attitude of athletes towards doping differs sharply from the answers of the coaches. Approximately 2 times less athletes are convinced that the behavior of coaches indicated in the questionnaires cannot significantly influence on their decision to use prohibited substances.

Vast majority of Coaches in all three countries know that the athletes have prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance to receive a TUE.

Significantly more than half Coaches and Athletes were ready to tell the athletes (friends) to ignore that information and to never use any prohibited substance but about 2 timeless of athletes in will make the appropriate calculations and use this substance on that basis. This belief is a reason of obtained statistical difference but good correlation in disposition of response in coaches and athletes. However we can make a conclusion regarding positive influence of Coaches to Athletes.

Despite the fact that statistically significant differences were found in the distribution of the responses of athletes and coaches, but, in general it can be concluded that in this matter the positive influence of coaches on athletes is significant.

Analyzing the obtained results of similarities and differences between Coaches and Athletes it can be concluded that the differences in social and cultural norms in these countries to a much lesser extent determine the beliefs of coaches about doping, which can be transmitted to athletes.

Despite the differences above the situation regarding Coaches and Athlets' Beliefs about their role in Anti-Doping is approximately the same in all countries and shows that coaches understand their role in preventing the use of prohibited substances by their athletes. To a much greater extent, the positive impact of coaches on their athletes depends on the degree of education and awareness of coaches in the anti-doping field.

With respect to differences between countries, it appears to be a need for greater education of Coaches in Moldova and Georgia with respect to reporting an athlete suspected of possessing a prohibited substance, and/or more proactive action by the NADOs in those countries to encourage and support such reporting, and a need for reducing the tolerance of doping by Coaches and Athletes in Moldova.

The only misconception of coaches, the cause of which is the legacy that remains from the propaganda that was conducted in the formed USSR's continues in the Russian-language media and websites, as example: "all athletes use doping but only the USSR athletes are being sanctioned", "WADA doping officers", "WADA disqualified athletes at the national championship"
In particular, the articles featured phrases such as:, etc.is the attitude of coaches to the problem, which can be assessed as a negative impact on athletes, for example the Athletes beliefs regarding the legalizing performance enhancements drugs. All other differences are due more to the quality of work of the Anti-Doping Agencies than to differences in Social and cultural norms.
On the other hand, the delusions of coaches that are formed from receiving incorrect information from other coaches or the media are also passed on to athletes. In some cases, for example in relation to the Prohibited List, this may lead to unforeseen consequences.

4. The results allow us to come to the conclusion in addition to requests of Education International Standard and Education Guideline that the following aspect will be necessary to be included in Education Program for Coaches.

Explanation of Anti-Doping organization's role and responsibility of testing and sanctions of the athletes of national and international levels. A separate attention will be made to the sanctions of athletes support personals responsibility.

Prohibited List: Explanation of difference between substances prohibited at all times and only in-competition in detail. Included in Presentation slides with the control question regarding these important aspects. Explanation of difference between specific and non-specific stimulants and glucocorticoids use. The latter will help to avoid restrictions in the treatment of non-serious diseases of athletes using non-specific stimulants in the out-of-competition period, which are prohibited only in-competition.
On the other hand, a detailed acquaintance with the prohibited list will allow Coaches to control the correct use of glucocorticoids in the out-of-competition period.

ADRV statistics. Explanation of difference between sport disciplines in the aspect of ADRV statistic. The important point will be the comparison of ADRV and testing statistics in the world and in each country. This may help to remove the misconception that athletes from other countries are tested much less frequently and that "without doping it is impossible to win"

Long term Side effects of anabolic steroids. The special attention should be paid in adding the information about the use of the anabolic steroids and its long-term side effects in the educators' Presentation. However, the experience of Armenia has shown that having a short video film (15-25 min) about the history of doping and the long-term side effects of the anabolic steroids can add to the effectiveness of the Education program.

5. The absence of significant differences between team and individual sports disciplines, both among coaches and athletes, obtained in our study once again confirms that the most important component in education programs for coaches, regardless of sports discipline, should be to increase the knowledge of coaches.

By extending current knowledge on the psychosocial processes that facilitate prohibited substances and methods use in sport and exercise, we believe the current findings make an important contribution to the collective efforts of researchers working towards the development of interventions aimed at deterring use.

SECTION VI: RECOMMENDATION FOR IMPLEMENTATION OF THE EDUCATION PROGRAMS FOR COACHES

Taking into account the fact that WADA recommends to conduct a Questionnaire in order to assess the effectiveness of education programs using the WADA Education standard, we came to the conclusion that in our case short Survey is the most appropriate method to find out the necessary information. The questions in the questionnaire should be written very clearly and should not allow people to answer in two ways. To assess effectiveness, it is also correct to enter a quantitative assessment - for example, from 1 to 5 points.
In the course of the implementation of the Study we came to the conclusion that it is optimal to collect completed questionnaires within the framework of "volatile control" that is, before and at the end of each block of education seminars (presentation). The main advantage of this methodology is in the process of filling out the questionnaires also to create an opportunity for participants to rest before each new presentation.

Methodology.
Based on the recommendations of the 2021 International Standard of Education: Guidelines for Education indicating that the high efficiency of the education seminars is ensured with the participation of no more than 7 participants in the seminar (Guidelines for Education, 2021), we recommend dividing the participants into groups of 7 people when conducting seminars. It is desirable to make 3 presentations (or short video film) in the seminar program. After each presentation, which should not exceed 17-18 minutes, the groups are entitled to a 10 minute break and then they proceed to listen to the next presentation, or video film.
At the beginning of each presentation, the participants fill out a pre-prepared questionnaire containing a standard set of questions. Right after the end of the presentation, they again answer the same questions.
In this case, the most important factor is the number of questions and the time participants spend completing the questionnaire.
In the course of the experiment, which involved more than 250 participants, we came to the conclusion that it is most convenient to use three questions in each of the thematic questionnaires. On average, the time for filling out such a questionnaire did not exceed 5 minutes at the beginning of the presentation, and 4 minutes at the end of the presentation.

Preparing and conducting presentations. In the field of anti-doping education, in our opinion, the most effective model is this training model proposed by Bloom's Taxonomy. According to Bloom's model, learning consists of three overlapping areas: knowledge, attitudes, skills. In order to achieve the greatest efficiency at all three levels, we suggest that the topics that will then be presented in the control questionnaires should be repeated during the presentation at least three times in different aspects. In this case, the repetition interval should be 2-3 minutes, i.e. every three other slides.
1. **Knowledge.** Give information in the form of an axiom. Example (There are all time prohibited substances and substances prohibited only in completion)
2. **Installations.** Repeat information in the form of a specific substances. Example: can the athletes use specific stimulants in therapeutic dosage in out-of –competition period?

3. **Skills.** Repeat the information as an example, asking the participants for an answer. Example: Athletes ask their coach. “Can they use dexamethasone in out of completion period? Yes or No”.

In fact, in the first phase, we provide the recollection of information, in the second, the assessment and awareness of information, and in the third, the assimilation of the value system (adaptation of behavior).
This approach was applied in three experimental groups of 8 people, including athletes, coaches and doctors on three topics recommended by the WADA Standard: national rules and the WADA Code and the role and responsibilities of WADA and NADO, The Prohibited list and Testing procedure. Considering that according to our Project survey conducted over 1 year in different target groups, complete confusion was found about what WADA and NADO roles are, it was necessary for the participants to clearly understand the role and responsibilities of WADA and NADO.
The need arose due to the large volume of fake information on Russian-language sites, which then fell into direct translation into Armenian newspapers and TV news.
In particular, the articles featured phrases such as: "WADA doping officers", "WADA disqualified athletes at the national championship", etc.
As a result of the discussion of the results obtained during the project, three questions were selected for each topic (see Attachments).
The effectiveness of this approach in three experimental groups of 8 people turned out to be higher than expected. The participants' knowledge increased by 38% and the number of correct answers reached 94 ± 3%.

SECTION VII: IMPLEMENTATION OF DEVELOPED EDUCATION PROGRAM AND CONTROL OF EFFECTIVENESS OF SEMINARS AND WORKSHOP FOR COACHES.

The developed Education Program was tested in January-June 2022 in Armenia during seminars in the following sports: football, cycling, shooting, boxing, wrestling, fencing at 18 Education seminars, which were attended by 418 participants: 126 (30%) coaches, athletes of various levels and different ages and athletes support staff (team doctors, administrators etc.).
Participants filled out a questionnaire consisting of three questions related to the topic under discussion. The questions were selected from among the questions used in the study, which were part of the questionnaire also were used in the ADEL program.
The first time participants answered to questions 5 minutes before the start of the seminars, the second time 5 minutes after the end of the seminar. At the seminar we used the Presentations developed and tested of the Study:
The prohibited List
The testing procedure
The role and responsibility of ADOs
TUE procedure
The data of Questionnaires obtained before and after seminar will be submitted to Excel as the tables (see attachment “Evaluation of effectiveness”). The date of the seminar should be indicated in the upper right corner. In the end of table correct answers must be given in numerical format (1;2:3;4...) for each question. The data from Excel tables will be exported to IBM SPSS program and the percent of correct answers will be calculated and return to the end of table.

Evaluation of Effectiveness

If the comparison of the results before and after seminar show that Improvement is less than 20% all process of seminar included the quality of Presentation should be analyzed and weaknesses should be identified and ways to correct them proposed. If necessary, in addition to a change in the quality or duration of the presentation, a new person can also be proposed as a lecturer. If the

comparison of the results before and after seminar show that Improvement is more than 20% , the next seminar is done in the same format and uses the same presentation.
As example the results of the evaluation for the coaches' questionnaire results regarding Prohibited List before and after seminars are shown in Table VI-1.
As shown in Table VII-1, the average efficiency of the seminar dedicated to the Prohibited List was over 20% (24.3±3%). The authors believe that this format is optimal and recommend using it also for other countries-relevant aspects in educational seminars.

Table VII-1. The results of the evaluation for the coaches' questionnaire results regarding Prohibited List before and after seminars on 2022 (March-July)

Data	Sport discipline	Number of participating coaches	Right answer before seminar, %	Right answer After seminar, %	Effectiveness,%	Corrective action
03.03.2022	U18 Boxing national Team,	4	64	85	21	it is recommended to remove 2 slides and reduce the presentation time
03.03.2022	U21 and Boxing national Team,	5	64.1	84.6	20.5	
23.03.2022	NRTP wrestlers	2	65.2	88.3	23.1	No actions need
15.04.2022	Fencing National Team, all ages	8	54.5	77.25	22.75	No actions need
22.04.2022	U17 National team Football	9	58.4	88.43	30.03	No actions need
25.04.2022	U19 National team Football	4	60.1	84.5	24.4	No actions need
28.04.2022	Football Club "Noah" and "Noah"	9	48.2	74.6	26.4	No actions need
02.05.2022	Footbal Club Ararat-Armenia	7	69.1	94.5	25.4	No actions need
04.05.2022	Footbal Club Pyunik and Pyunik-2	10	53.1	85.2	32.1	No actions need
09.05.2022	Footbal Club BKMA	10	59.3	84.9	25.6	No actions need
13.05.2022	Footbal Club Alashkert	8	70.5	93.2	22.7	No actions need
16.05.2022	Footbal Club Van	10	65	87	22	No actions need
18.05.2022	Footbal Club Noravank	5	72.3	93.8	21.5	No actions need
20.05.2022	Football club Ararat	9	66.4	89.7	23.3	No actions need
23.05.2022	Football club Urartu	6	67.3	88.2	20.9	No actions need
22.06.2022	Cycling National team (all ages)	10	74.2	95.4	21.2	No actions need
01.07.2022	Shooting school	10	69.7	93.8	29.3	No actions need
Mean					*24.3*	
SD					*3.0*	

REFERENCES

1. Anshel, M.H., Russell, K.G. (1997). Examining athletes' attitudes toward using anabolic steroids and their knowledge of the possible effects. Journal of Drug Education, 27,121–145Google Scholar, Crossref, Medline

2. Allen J., Dimeo P., Morris R., Dixon S, Robinson L. (2015) Precipitating or prohibiting factor? Examining coaches' perspectives of their role in doping and anti-doping. Report compiled for the World Anti-Doping Agency Social Science Research SchemeGoogle Scholar, Crossref, Medline

3. Allen J., Taylor J., Dimeo P., Robinson L. (2013). Predicting elite athletes' attitudes towards doping:Examining achievement goals and motivational climate. Unpublished manuscript.Stirling, Scotland. Google Scholar, Crossref, Medline

4. Backhouse S. H., Atkin A., McKenna J., Robinson, S. (2007). International literature review: Attitudes, behaviors, knowledge and education – drugs in sport: Past, present and future. Report to the World Anti-Doping Agency. Google Scholar, Crossref, Medline

5. Backhouse S. H., McKenna J.(2012) Reviewing Coaches' Knowledge, Attitudes and Beliefs regarding Doping in Sport International Journal of Sports Science & Coaching Vol 7, Issue 1, Google Scholar, Crossref, Medline

6. Backhouse S.H., McKenna J. (2001) Doping in Sport: A Review of Medical Practitioners' Knowledge, Attitudes and Beliefs, International Journal of Drug Policy, 22, 198–**202**.

7. Boardley I.D., Grix J., Harkin J.(2015) Doping in team and individual sports: a qualitative investigation of moral disengagement and associated processes, Qualitative Research in Sport, Exercise and Health, 7:5, 698-717, DOI:10.1080/2159676X.2014.992039

8. Cleret L. (2011). The role of anti-doping education in delivering WADA's mission. International Journal of Sport Policy, 3, 271-278. Google Scholar, Crossref, Medline

9. Dimeo P., Allen J., Taylor J., Robinson L., Dixon S. (2012). Team dynamics and doping in sport: A risk or a protective factor? Report to the World Anti-Doping Agency

10. Donovan R.J., Egger G., Kapernick V., Mendoza J. A conceptual framework for achieving performance enhancing drug compliance in sport. Sports Med. 2002; 32: 269-284. doi:10.2165/00007256-200232040-00005

11. Dubin C. (1990). Commission of inquiry into the use of drugs and banned practices intended to increase athletic performance. Ottawa, ON. 1990Google Scholar, Crossref, Medline

12. Figved S.E. (1992). Drug education programs for coaches and leaders. Science Periodical on Research and Technology in Sport, 12(4), 5-9. Google Scholar, Crossref, Medline

13. Fung L., Yuan Y. (2006). Performance enhancement drugs: Knowledge, attitude and intended behavior among community coaches in Hong Kong. The Sport Journal, 9, 3. Available at http://thesportjournal.org/.Google Scholar, Crossref, Medline

14. Hovhannisyan A., Ukleba T., Arkhip E , Saakyan A., Shengelia R., Dimeo P. (2018) Comparative study of the coaches' attitude to doping in the former USSR countries - members of EERADO 2018, Proceedings of the Georgian National Academy of Sciences,p.58

15. Hovhannisyan A.S., Sahakyan A.A, Ukleba T., Jalleh G., Donovan R., Shengelia R. Applying the WADA social science research package to assess Armenian athletes' beliefs about and attitudes towards doping//Proceedings of the Georgian National Academy of Sciences, 2017, May-August, V. 43, No. 3-4,p.145-155

16. Kirby K., Moran A. (2008) Research project : an investigation The Development and Validation of a Doping Attitudes and Behaviour Scale Date: 16 May 2008 Google Scholar, Crossref, Medline

17. Kirby K., Moran A., Guerin S. (2011). A qualitative analysis of the experiences of elite athletes who have admitted to doping for performance enhancement. International Journal of Sport Policy and Politics, 3, 205-224. Google Scholar, Crossref, Medline

18. Laure P., Thouvenin F., Lecerf T.(2001) Attitudes of Coaches Toward Doping, Journal of Sports Medicine and Physical Fitness, 41(1), 132–136

19. Laure P., Binsinger C., Lecerf T.(2003) General Practitioners and Doping in Sport: Attitudes and Experience, British Journal of Sports Medicine, 2003, 37, 335–338. Google Scholar, Crossref, Medline

20. Lazuras L., Barkoukis V., Rodafinos A., Tsorbatzoudis H.(2010) Predictors of Doping Intentions in Elite-Level Athletes: A Social Cognitive Approach, Journal of Sport and Exercise Psychology, 32, 694–710. Google Scholar, Crossref, Medline

21. Lentillon-Kaestner V., Carstairs C. (2010). Doping use among young elite cyclists: A qualitative psychosociological approach. Scandinavian Journal of Medicine and Science in Sports, 20, 336-345. Google Scholar, Crossref, Medline

22. Lucidi F., Zelli A., Mallia L., Grano C., Russo P., Violani, C. (2008). The social cognitive mechanisms regulating adolescents' use of doing substances. Journal of Sports Sciences, 26(5), 447-456. Google Scholar, Crossref, Medline

23. Lyle J. (2002). Sports coaching concepts: A framework for coaching behavior. London: Routledge. Google Scholar, Crossref, Medline

24. Smith A., Stewart B., Oliver-Bennetts S., McDonald S., Ingerson L., Anderson A., Dickson G., Emery P., Graetz F. (2010). Contextual influences and athlete attitudes to drugs in sport. Sport Management Review, 13, 181-197. Google Scholar, Crossref, Medline

25.2021 International Standard of Education: Guidelines for Education , p.69

Appendix 1

QUESTIONNAIRE FOR COACHES

Socio-Demographic

1. Sports you have worked with_____

2. No. of years working with sports people_____

3. Your age_____ years

4. Your gender M……1 F…….2

5. What is the highest level of team/athlete competition you have worked with?
Local…… 1
Regional……2
National……3
International…..4

6. From who have you most often received information about banned substances in sport?
Team Doctors……1
Internet……..2
Team manager coach……3
Other coaches……4
NADO……...5
TV……..6

7. During your coaching career have you ever been asked by an athlete for information about anti-doping regulations and prohibited substances and methods?
Yes - Often……1
Yes – Occasionally…….2
Yes but rarely……3
No……4

8. How would you rate your knowledge about banned substances in sport?

Very knowledgeable…….. 1
Quite knowledgeable……..2
Not very knowledgeable…….3
Not at all knowledgeable …...4

AWARENESS

9. If a prohibited substance was found in the athlete's urine or blood sample, who do you think is primarily responsible for such a violation of the the anti-doping rules?
Athlete……...1
Team Doctor ……2
Coach……...3
Don't know.....4

10. Which Anti-Doping organizations are primary responsible for the following actions

a) Planning and implementation of the Testing of National level athletes
National Anti-Doping Organization…1
National Federation…….2
Ministry of Sport …….....3
NOC…...4
WADA....5

b) Control of effectiveness of Testing and disqualification of National level athletes
National Anti-Doping Organization…1
National Federation…….2
Ministry of Sport …….....3
NOC…...4
WADA....5

c) Planning and implementation of the Testing of International top level athletes
National Anti-Doping Organization…1
International testing Agency …….2
Ministry of Sport …….....3
NOC…...4
WADA....5

d) International level Athletes Disqualification
National Anti-Doping Organization…1
International testing Agency …….2
Ministry of Sport …….....3
NOC…...4
WADA....5
International Federation....6

Q11. The following statements are intended to provide an insight into your beliefs regarding athletes' use of doping

	0-1%	10-20%	40-60%	60-80%	90%	Don't know
a. How many athletes in your sport do you believe engage in doping	1	2	3	4	5	6
b. How many elite athletes in your country do you believe engage in doping	1	2	3	4	5	6
c. How many elite athletes do you believe were engaged in doping during the last years	1	2	3	4	5	6

Q12. If an athlete used a banned Stimulants in out-of-competition period do you think this would be an anti-doping rule violation?

Yes…….....1
No ……..…2
Don't know ……3

Q13. Do you think the number of tests carried out on an athlete is chosen based on the risk of using doping in that sport or based on the nationality of athletes?
Risk in that sport……1
Athlete nationality…… 2
Don't know ……..5

PERCEIVED MOTIVATIONS OF DOPING ATHLETES

Q14. The following factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping. Based on your experience as a coach, please indicate how strongly you agree or disagree with each factor as a potential influence in athletes' decision to dope?

	Agree	Disagree
Economic/monetary reasons……	1	2
To speed up recovery from injury……	1	2
To improve their performance…….	1	2
To prolong their career in sport……	1	2
Due to peer pressure…….	1	2

BELIEFS ABOUT DOPING IN SPORT

Q15. To what extent do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
	1	2	3	4
a.The current system of drug testing is effective in catching dopers *in-competition*				
b. The current system of drug testing is effective in catching dopers *out of competition*				
c. Anti-doping education programs are effective in deterring athletes from doping				
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping				

Q16. Do you have any suggestions for how the current drug testing and sanctions system could be improved?
No:……1
Yes ……..……2 >>>> Please list them
……..

Q17. Do you have any suggestions for how the content or delivery of anti-doping education could be improved in your country?
No:……1
Yes ……..……2 >>>> Please list them
……..

BELIEFS AS A COACH ABOUT DOPING

Q18. To what extent do you agree or disagree with the following statements?

YES NO
a. The media blows the doping issue out of proportion. ……..1……..2
b. Legalizing performance enhancements would be beneficial for sports…1……...2

Q19. To what extent do you agree or disagree with the following statements

Q19. To what extent do you agree or disagree with the following statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
	1	2	4	5
a. It is expected of me that I deter the athletes I work with from doping				
b. I feel under pressure in my role as a coach to promote anti-doping				
c. I plan to provide anti-doping information to athletes I work with				
d. Athletes' opinions about doping are beyond my control				
e. I would provide information to an athlete on how to plan and execute a doping programme				
f. I expect that I would take disciplinary action against an athlete who I discovered was engaging in doping				

Q20. To what extent do you agree or disagree that the following behaviors of coaches contribute to athletes being positively disposed toward doping?

	Strongly Disagree 1	Disagree 2	Agree 4	Strongly Agree 5
a. Failing to reward effort/improvement by athletes				
b. Punishing mistakes by shouting at or dropping the athlete in question				
c. Showing favoritism towards the best athletes in the group				
d. Actively encouraging rivalry between team-mates/training partners				

Q21. To what extent do you think you would do each of the following if you saw or knew that an athlete accepted or bought a prohibited substance?

I will report this to the anti-doping organization……1
I will report this to the sports federation……..2
I will talk with the athlete about the inadmissibility of the use of doping……..3
I will find out all the details about this substance and would
explain to the athlete how to take it……..4
I will not take any action……...5

Q22. If you are sure that your athlete can only be tested at competitions, would you recommend him/her to take a prohibited substances at the out-of-competition period if you knew for sure that by the time of the competition this substance cannot be detected in their urine sample?

Definitely would recommend……1
Probably would……..…2
Unsure – might or might not…..…3
Probably would not……...4
Definitely would not…….5

Q23. If one of your athletes needed to receive a TUE, is it a prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance?

Yes – in all cases……..1
Only in some cases ……..2
No…….3
Don't know ……..4

Q24. If your athlete received information on how long a particular prohibited substance would take to be removed from their body, which of these actions would you be most likely to take?

I would tell them to ignore that information and to never use any prohibited substance ……. 1
I would make the appropriate calculations and recommend using this substance on that basis ……2
I would check the information via the Internet or from sports doctors and on the basis
of the information received, recommend it to be used or not ……..3

Q25. Overall, what do you think are the three major challenges to being a coach these days in Armenia (Moldova, Georgia)?

Low salary……1
Pressure of sport administrators……..2
Not the desire of young men to play sports…….3

Other (please fill)…….

Q26. What are the three things you enjoy most about being a coach?
Work with youth and children……..1
Preparing a healthy generation……...2
The feeling that I stayed in the sport……3

Other (please fill)……

Appendix 2

QUESTIONNAIRE FOR ATHLETES

- This survey asks for your attitudes and opinions on sport issues.
- Participation in this survey is voluntary.
- There are no rights or wrong answers.
- All your responses are strictly confidential.
- Do not write your name on this survey.

1. What is the main sport you are or have been involved in? _____

2. How many years have you competed in your main sport? _____

3. Your age _____years

4. Your gender M……1 F…….2

5. Your personal coach name _____

6. What is the highest level you have competed at?
Olympic Games……1
World championship events/international events……...2
European championship……3
National competition…….4

7. From who have you most often received information about banned substances in sport?
Team Doctors……1
Internet……..2
Team manager coach……3
Other coaches……4
NADO……...5
TV……..6

8. During your athlete career have you ever been asked your coach for information about doping?
Yes - Often…… 1
Yes – Occasionally……. 2
Yes but rarely……3
No……4

9. If a prohibited substance was found in an athlete's urine sample, who do you think is primarily responsible for such a violation of the the anti-doping rules?
Athlete……1
Team Doctor ……..2
Coach……..3
Don't know.....4

10. Which Anti-Doping organizations are primary responsible for the following actions

a) Planning and implementation of the Testing of National level athletes
National Anti-Doping Organization…1
National Federation…….2
Ministry of Sport …….....3
NOC…...4
WADA....5

b) Control of effectiveness of Testing and disqualification of National level athletes
National Anti-Doping Organization…1
National Federation…….2
Ministry of Sport …….....3
NOC…...4
WADA....5

c) Planning and implementation of the Testing of International top level athletes
National Anti-Doping Organization…1
International testing Agency …….2
Ministry of Sport …….....3
NOC…...4
WADA....5

d) International level Athletes Disqualification
National Anti-Doping Organization…1
International testing Agency …….2
Ministry of Sport …….....3
NOC…...4
WADA....5
International Federation....6

Q11. The following statements are intended to provide an insight into your beliefs regarding other athletes' use of doping

	0-1%	10-20%	40-60%	60-80%	90%	Don't know
a. How many athletes in your sport do you believe engage in doping	1	2	3	4	5	6
b. How many elite athletes in your country do you believe engage in doping	1	2	3	4	5	6
c. How many elite athletes do you believe were engaged in doping during the last years	1	2	3	4	5	6

Q12. If an athlete used a banned Stimulants in out-of-competition period do you think this would be an anti-doping rule violation?

Yes…….....1
No ……2
Don't know ……3

Q13. Do you think the number of tests is chosen based on the risk of using doping in that sport or based on the nationality of athletes?

Risk in that sport……1
Athlete nationality…….2
Both ……...3
Neither – some other reason (please write in)……4

Q14. The following factors have been cited as some of the possible reasons behind athletes' decisions to get involved in performance enhancing doping. Based on your experience as an athlete, please indicate how strongly you agree or disagree with each factor as a potential influence in athletes' decision to dope?

	Agree	Disagree
Economic/monetary reasons……	1	2
To speed up recovery from injury……	1	2
To improve their performance…….	1	2
To prolong their career in sport……	1	2
Due to peer pressure……	1	2

Q15. To what extent do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
	1	2	3	4
a.The current system of drug testing is effective in catching dopers *in-competition*				
b. The current system of drug testing is effective in catching dopers *out of competition*				
c. Anti-doping education programs are effective in deterring athletes from doping				
d. The current sanction of a 4 year ban for a first doping offence is sufficiently strict to deter athletes from doping				

Q16. Do you have any suggestions for how the current drug testing and sanctions system could be improved?

No:……1
Yes ……..……2 >>>> Please list them

……..

Q17. Do you have any suggestions for how the content or delivery of anti-doping education could be improved in your country?

No:……1
Yes ……..……2 >>>> Please list them

……..

Q18. To what extent do you agree or disagree with the following statements?

Agree *Disagree*

a. There is no difference between drugs and the technical equipment that can be used to enhance performance (e.g. hypoxic altitude simulating environments)……1……..2
b. The media blows the doping issue out of proportion. ……...1……2
c. Legalizing performance enhancements would be beneficial for sports……..…1……..2

Q19. Do what extent do you agree or disagree that the following coach behaviors could contribute to athletes being positively disposed toward doping?

	Strongly Disagree 1	Disagree 2	Slightly Agree 3	Agree 4	Strongly Agree 5
a. Failing to reward effort/improvement by athletes					
b. Punishing mistakes by shouting at or dropping the athlete in question					
c. Showing favoritism towards the best athletes in the group					
d. Actively encouraging rivalry between team-mates/training partners					

Q20. To what extent do you think you would do each of the following if you saw or knew that an athlete accepted or bought a prohibited substance?
I will report this to the anti-doping organization……1
I will report this to the sports federation……..2
I will talk with the athlete about the inadmissibility of the use of doping……..3
I will find out all the details about this substance and would explain to the athlete how to take it……..4
I will not take any action……...5

Q21. If you needed to receive a TUE, is it a prerequisite to submit a diagnosis of the disease and doctors' recommendations for taking a prohibited substance?
Yes – in all cases……..1
Only in some cases ……..2
No……3
Don't know ……..4

Q22. If you received information on how long a particular prohibited substance would take to be removed from your body, which of these actions would you be most likely to take?

I would tell ignore that information and to never use any prohibited substance ……1
I would make the appropriate calculations and use this substance on that basis ……2
I would check the information via the Internet or from sports doctors and on the basis of the information received, make the decision to use it or not ……..3

Q23. If you had the opportunity to improve your physical fitness by biomedical means or by doping for the same cost, what would be your choice?

• I would constantly undergo a biochemical and medical examination….1
• I would choose dope as it is a reliable and proven way……2

Q24. Overall, what do you think are the three major challenges to being an athlete these days in Armenia (Moldova, Georgia)?
Low salary…….1
Lack of good conditions for training …...2
Lack of government support ……3
Other (please fill)……

Q25. What are the three things you enjoy most about being an athlete?
Opportunity to become a famous and recognizable person ……..1
The opportunity to participate in international
competitions and see many other countries ……..……...2
Other (please fill)……

Q26. How likely it is that athlete at your level would be drug tested at least once a year?
Very likely……..1
Quite likely……..2
Not very likely…….3
Not at all likely……4
Don't know……..5

CONTROL QUESTIONNAIRES FOR MONITORING THE EFFECTIVENESS OF PRESENTATIONS

Presentation: National Anti-Doping Rules, WADA Anti-Doping Code

1. If a prohibited substance was found in the athlete's urine or blood sample, who do you think is primarily responsible for such a violation of the the anti-doping rules?
Athlete……...1□
Team Doctor ……2 □
Coach……...3□
Don't know.....4□

Which Anti-Doping organizations are responsible for planning and implementation of the Testing and disqualification of National level athletes?

National Anti-Doping Organization…1 □
National Federation…….2 □
Ministry of Sport ……....3□
NOC…...4□
WADA....5□

Do you think the number of tests carried out on an athlete is chosen based on the risk of using doping in that sport or based on the nationality of athletes?
Risk in that sport……1□
Athlete nationality…… 2□
Don't know ……..3□

Presentation: Testing Procedure. Role and Responsibility of Coaches

1. Does the laboratory worker know whose sample is being tested?

1□ Yes 2□No

2. How many times in a year can an athlete be tested for doping?
at least one week……..1□
an athlete may undergo non-competitive testing once a year……..2□
Unlimited……3□

3. If the athlete has been notified of a doping test, when he should be present for the doping test?

In 1 hour……1□
In 3 hours……2□
In 24 hours…….3□

Presentation: LIST OF PROHIBITED SUBSTANCES AND METHODS

1. Why are some substances prohibited only during competitions?

They are less harmful.....1□
They are also harmful, but their non-competitive use cannot improve the athlete's results.....2□

2. **How often is the list of prohibited substances and methods updated?**

Once a year.....1□
Every two years.....2□
Before the Olympic games.....3□

3. **Which organization develops the list of prohibited substances and methods?**

IOC.....1□
WADA.....2□
World Health Organization.....3□